

THE CULTIVATOR:

A MONTHLY PUBLICATION, DEVOTED TO AGRICULTURE.

I KNOW OF NO PURSUIT IN WHICH MORE REAL AND IMPORTANT SERVICES CAN BE RENDERED TO ANY COUNTRY, THAN BY IMPROVING ITS AGRICULTURE—Wash.

VOL. VI.

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No. 2.

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THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

Agricultural Schools.

We may learn wisdom from the infidel Turk, notwithstanding the low grade in the scale of civilization in which we choose to place him. Ali Pacha, the sovereign of Egypt, rightly appreciating the value of agricultural improvement in his dominions, has established, among other national schools, one for instruction in the theory and practice of agriculture, and another for instruction in the veterinary science. When shall we become as wise in these matters as the Pacha of Egypt? Answer—when our representatives are willing to forego personal and sectional aggrandizement to promote the common good; when they will make patriotism, which consults the good of the whole, paramount to the contracted notions which yoke them to the car of party—to the interests of a few aspiring individuals.

Premiums for 1839.

We offer the following premiums for the current year—the time for competing for the first to terminate on the first of September, after which the essays and drawings already received, and which may be received, or at least such as may be deemed to possess the most merit, will be published. The essays, &c. for the other premiums, will be received any time before the tenth of January next, and will be published in the February and March numbers.

1. For the best plan of a farm dwelling-house, of stone, brick or wood, to cost from \$600 to \$2,000, a premium of \$20 00
2. For the most profitable acre of corn, 10 00
3. For the second best do 5 00
4. For the most profitable acre of ruta baga, 10 00
5. For the second best do 5 00
6. For the most profitable acre of mangold wurzel, 10 00
7. For the most profitable acre of sugar beets, 10 00
8. For the most profitable acre of carrots, ... 10 00
9. For the best sample of ten pounds of beet sugar produced by household process, 10 00
10. For the best sample of ten pounds of Maple sugar, produced in the like way, 10 00

Note.—Plans of dwelling-houses must be accompanied by drawings of the elevation and ground plan, and must comprise estimates of expense for wood, brick or stone. The sugar must be presented before next new-year's day. To give uniformity, labor in raising the crops must be estimated at \$2 per day for man and double team, \$1.37 for man and single team, 75 cents for man, and 50 cents for every load of manure, when spread. The same statements of modes of culture, labor, expense, produce and profits will be required as heretofore, and the same evidence of the credibility of the competitor. The product of corn must be over 80, and of the roots over 600 bushels per acre.

Useful Mode of Teaching.

We have been very much interested, and highly gratified withal, by the perusal of a letter from E. E. Barney, principal of an academy at Dayton, Ohio, detailing the mode of instruction pursued with some classes of young men under his charge. The letter was not written for the public eye, but preliminary to a request to know at what discount we would put a number of Cultivators to serve as a class-book. We very willingly replied, that for such a noble object, we would discount one-third of the subscription price, a proposition which will be extended to any academy, which may choose to adopt Mr. Barney's excellent example. In the letter accepting our proposi-

tion, we have permission to publish Mr. Barney's mode of instruction, which follows.

"In the academy of this place, of which I have charge, I have a class in reading of forty boys. I have taken the Common School Assistant, one for two boys: when the class are called for reading, I distribute to them the papers, with the injunction, that no scholar turn over a leaf, or look at any other part of the paper, till the first page is read in order. Sometimes only one scholar reads; the rest of the hour is taken up in commenting on the subject read, and in answering questions and inquiries suggested to the minds of the class, by the topic under consideration. Thus topics of interest, and such as elicit discussion, are constantly coming up. We always have something new, as none are permitted to look upon any part of the paper, except that containing the lesson for the day. At the close of the recitation, the papers are taken away and locked up. This frequently happens in the midst of an interesting discussion, when every member of the class is anxious to express his opinion—(which they manifest by raising the hand, none speaking without permission)—and thus they return to the recitation with increasing interest each day.

"I have taken the Cultivator from the beginning, and consider it invaluable to the farming interest. Many of the boys in the first named class are studying chemistry. I have read many extracts from the Cultivator to them, showing how a knowledge of this science would aid an intelligent farmer in cultivating the soil. The result has been, that many of the class now view farming in an entirely new light. They had before looked upon it as only fit for the ignorant and clownish; but many of them now view it as a profession, to be studied and learned, and worthy the time and attention of the most gifted intellect. Many who had before been hesitating in the choice of a business for life, begin to look upon farming as combining the three requisites—HONOR, PROFIT and HAPPINESS."

"At the end of the year, the papers can be bound in volumes, to be used again by other classes. At the close of each paragraph, the class are permitted and encouraged to ask questions, on the subject read. The teacher also questions the class, and ascertains not only that each word is understood, but that the general scope and bearing of the whole subject is comprehended. If this course be adopted and carried out fully, it will enable the teacher to communicate a vast amount of knowledge in the most agreeable form, and in a way that will be treasured up by the pupil. And more than this, he will be able to mould the mind of the pupil to habits of correct thinking, to eradicate error, and to instil right principles—a matter more important than any other in education. The amount read, in learning to read, is of little consequence,—every thing depends on the manner. Again, it is of little service to learn to call the words correctly, unless the pupil be so instructed that each word is a picture to the child's mind of an idea. And even the advantages of this instruction is problematical, unless such principles be inculcated at the same time as will insure the right application of such knowledge in after life.

"It is for these reasons that I have adopted the plan here detailed. My experience thus far most fully sanctions it."

School-Houses.

We have been obligingly favored with the report of the Secretary of the Massachusetts Board of Education, on the subject of school-houses. No person can read it without being forcibly struck with the glaring defects which are seen to exist in most school-houses of the present day, and some of which are calculated to produce the most serious and lasting evils upon teachers and children. Gen. Mann has discussed the subject under the heads of *Ventilation and warming*—*Size—Desks, seats, &c.*—*Location of school-houses*—*Light—Windows—Yards or play grounds*—*and the duty of instructors in relation to school-houses.* He has also submitted plans of school-houses; and subjoined letters from gentlemen of medical and scientific celebrity in confirmation of the opinions he has advanced.

Considering the subject one of great importance to the whole community, and one that has been but little investigated, or understood, we shall attempt to give a brief abstract of the report, and accompany it with two of the plans.

Ventilation and warming.—The importance of pure air to health, we have particularly explained in an

* It is feared that farmers who seek to elevate their sons and themselves, by sending the former to the liberal or mercantile professions, as well as the statesmen, who neglect to foster this great business, have the same contracted notions of a business which puts in requisition our best and noblest faculties.

article upon that subject, in another column, the perusal of which we think will satisfy every reflecting mind, that children in a crowded school, especially in winter, suffer seriously, and often fatally, from the confined and vitiated air of school-rooms. Dr. Woodward has stated, that in a close room of thirty feet square, and nine feet high, fifty scholars will so poison the air by breathing, that in forty minutes it is wholly unfit for respiration. One of the strongest cases cited, of the destructive influence of air which has become vitiated by breathing, is that of the Black Hole in Calcutta, a room eighteen feet square, into which one hundred and forty-six persons were thrust, and kept confined for ten hours; and although there was one aperture for the admission of air and light, one hundred and twenty-three had perished at the end of that time. Only twenty-three survived, and several of these were immediately seized with the typhus fever.

To obviate the evils incident to foul air, there is wanted, the secretary observes, "a current of fresh air flowing into the room, while a current of the respired air flows out of it; both to be equal to the quantity required for the occupants. Under such circumstances, if there be but little motion in the room, the poisonous part of the air [carbonic acid gas,] will settle towards the floor as soon as it is cast from the lungs, while the other part of it, being raised almost to a blood heat in the lungs, will rise to the ceiling. In the ceiling, therefore, should be an aperture for its escape. The carbonic acid will tend to flow out under the door, or when it is opened. If the ceiling be concave or dome-shaped, only one aperture will be necessary; if horizontal, and the room be large, several may be required. These apertures may open into the attic, into the side walls, or into the chimney; and the flues to conduct off the impure air may have valves, or dampers, to be opened or closed at pleasure. For the introduction of fresh air, the report recommends, that a cellar be constructed under the school-house, for the deposit of wood, and the construction of a furnace, the brick or soap-stone top of which may be level with the floor, and one or two orifices will admit a constant stream of heated air from the cellar into the school room. If a stove is employed, it should be enclosed by a sheet iron case, rising from the floor on three sides of the stove, and bending over it; not, however, so as to close over its top, but leaving an opening in the case greater or less, according to the size of the stove and the room.—The fresh air to be introduced into this case from out-of-doors, by a conductor through the floor. A thermometer should be kept in the school room, and the temperature made to range from 65 to 70°.

Size.—In the improved penitentiary system, at Charlestown and Philadelphia, 171 in the former, and 1,300 in the latter, cubic feet of air are allowed to each prison cell. In a room thirty feet square, and twelve feet high, there would be 10,800 cubic feet, which, divided among twenty inmates, would afford to each 540 cubic feet, double the amount allowed to a Massachusetts convict, but less than a half that is allowed to one in the Pennsylvania penitentiary.—The cases are greatly dissimilar; and the advantage is altogether in favor of the school room, in consequence of its greatly superior facilities for the admission of fresh air. Yet the comparison will serve to show, that even in punishing the wicked, we are not disposed to withhold from the convict, this first blessing of heaven—pure air—towards the enjoyment of life. Our school-houses are undoubtedly too small, and too low, in general, for the number of scholars which they are intended to receive. In our estimate, we calculate rather how many we can pack, than how many we can accommodate. By a narrow, short-sighted parsimony, we endanger that which we are most desirous to preserve—the health of our children. A school room should be so large, as to afford room for all the seats and desks for the pupils, and to leave an "open space all round the walls, at least two feet and a half in width, besides room for the common recitations and the teacher's desk," with anti-rooms or halls for the children's hats, bonnets, &c.

Desks, seats, &c.—A level floor is recommended, as increasing the space for air, and as promoting an equilibrium of temperature. "The seats with desks should be arranged in parallel lines, lengthwise of the room, with aisles between, each seat to accommodate one scholar only. Eighteen inches is perhaps a suitable width for the aisles. Each desk should be

two feet long, and not less than one foot six inches, or nine inches wide." With regard to seats, an awful neglect has been too generally manifest—1st, in not making them broad enough; 2d, in not so adapting them that the feet of those sitting upon them may rest firmly on the floor; and 3d, in not providing backs to them. As to the tendency of these defects in our school rooms, upon the human system, we quote Dr. Woodward. He says:

"High and narrow seats are not only extremely uncomfortable for the young scholar, tending constantly to make him restless and noisy, disturbing his temper and preventing his attention to books, but they also have a direct tendency to produce deformity of the limbs."

"If the seat is too narrow, half the thigh only rests upon it; if too high, the feet cannot reach the floor; the consequence is that the limbs are suspended on the centre of the thigh. Now as the limbs of children are pliable or flexible, they are easily made to grow out of shape, and become crooked by such an awkward unnatural position."

"Seats without backs, have an equally unfavorable influence upon the spinal column. If no rest is afforded the backs of children while seated, they almost necessarily assume a bent and crooked position; such a position often assumed, or long continued, tends to that deformity which has become extremely common with children in modern times—and leads to disease of the spine in innumerable instances, especially with delicate female children."

"The seats in school rooms should be so constructed, that the whole thigh can rest upon them, and at the same time the feet stand firmly upon the floor; all seats should have backs high enough to reach the shoulder blades; low backs, although better than none, are far less easy and useful than high ones, and will not prevent pain and uneasiness, after sitting a considerable time. Young children should be permitted to change their position often, to stand on their feet, to march, and to visit the play ground. One hour is as long as a child, under ten years of age, should be confined at once, and four hours as long as he should be confined to his seat in one day."

"At this period of life," says the report, "when portions of the bone are but little more than cartilage, and the muscles will stretch like sheep's leather, the question is, whether the seats shall be conformed to the children, or the children shall be deformed to the seats."

"Young persons," remarks Dr. Warren, "however well disposed, cannot support a restriction to one place and one posture. Nature resists such restrictions; and if enforced, they are apt to create disgust with the means and the object. Thus children learn to hate studies, that might be rendered agreeable, and they take an aversion to instructors, who would otherwise be interesting to them."

"In the course of my observations," continues Dr. Warren, "I have been able to satisfy myself, that about half the young females brought up as they are at present, undergo some visible and obvious change of structure; that a considerable number are the subjects of great and permanent deviations, and that not a few entirely lose their health from the manner in which they are reared. I feel warranted in the assertion, that, of the well-educated females, within my sphere of experience, about one-half are affected with some degree of distortion of spine. The lateral distortion of the spine is almost wholly confined to females, and is scarcely ever found existing in the other sex. The posture females assume, while seated at their studies, are not indifferent. They should be frequently warned against the practice of maintaining the head and neck long in a stooping position, and the disposition to it should be lessened, by giving a proper elevation and slope to the desk, and the seat should have a support or back."

Location of school-houses.—After pointing out the injurious influences which result from placing the school-house in a bleak or marshy situation—upon a sandy plain, without shade—or upon the road-side, amidst the dust of travel, and where the children's attention is constantly called off by the passers by—or upon a little delta of land, surrounded by roads, without any place of seclusion from the public gaze, and where the modesty of nature will be overlaid by habits of indecorum;—after pointing out the objections to such locations, the report directs—"Build it where some sheltering hill or wood mitigates the inclemency of winter; where a neighboring grove tempers the summer heat, furnishing cool and shady walks; remove it a little from the public highway, and from buildings where noisy and clattering trades are carried on; and, above all, reserve it from sound or sight of all resorts for a license for dissipation; and a sensibility to beauty, a purity of mind, a sentiment of decency and propriety, will be developed and fostered, and the chance of elevated feelings and correct conduct in after life will be increased manifold."

Light and windows.—"The windows should be such as to furnish sufficient light at all times," and should be furnished with blinds and curtains for excluding any excess, which often proves prejudicial to the sight of children. The windows should be made so that the upper sash can be lowered, or the lower sash raised.

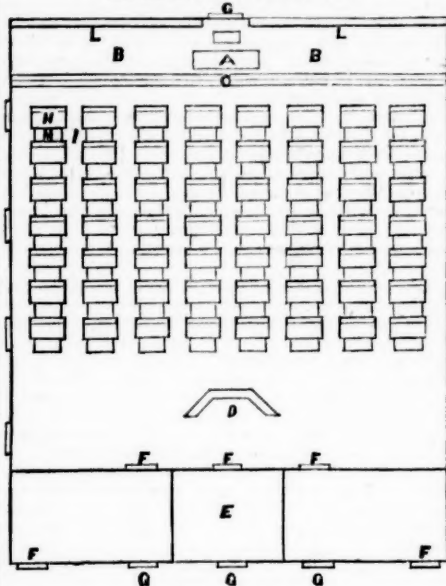
Yards or play grounds.—Much emphasis is laid upon these being sufficient for the play and exercise of the children, and of their being kept neat and cleanly. "With the number who ordinarily attend these institutions, not less than a quarter of an acre, [in the country] should ever be thought of as a space for their accommodation, and this should be enclosed from the public highway, so as to secure it from cattle, that the children may have a safe and clean place for exercise at recess and other times." It should contain some "ornamental and fruit trees and flower borders, which children may be taught to cultivate and enjoy, and by an attention to which their ideas of property, and common rights and obligations, would

become more distinct. By attention to what belonged to themselves, they would be kept from many of those wanton injuries too often done to the possessions of those near them."

The duty of instructors, among other things, is declared to be, to see that the school-room in all its parts, be kept in a clean and comfortable condition, as being highly conducive to the observance of this virtue in the children, and to their correct deportment.

The report concludes with recommending, that every school-house have a bell, to inspire punctuality and order; a time-piece, where it can be seen by the scholars, as an encouragement and relief, like that felt by the traveller in seeing mile-stones;—a well or a spring, from which a ready supply of water may be obtained;—scrubbers and mats at the doors and in the halls;—and, where there is no cellar, a shed for wood—the latter being deemed indispensable.

EXPLANATION OF THE PLATES.



[Fig. No. 4.]

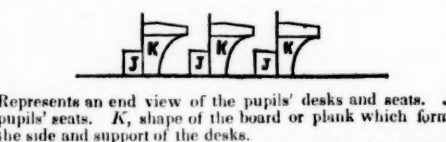
Represents the general plan of a school-house, as recommended in the report. A, teacher's desk. B, B, teacher's platform, from 1 to 2 feet in height. C, step for ascending the platform. L, L, Cases for books, apparatus, cabinet, &c. H, pupils single desks, 2 feet by 18 inches. M, pupils seats, 1 foot by 20 inches. I, Aisles, 1 foot 6 inches in width. D, place for stove, if one be used. E, room for recitation, for retiring in case of sudden indisposition, for interviews with parents, when necessary, &c. It may, also, be used for the library, &c. F, F, F, F, F, Doors into the boys' and girls' entries—from the entries into the school-room, and from the school-room into the recitation room. G, G, G, G, windows. The windows on the sides are not lettered.

The seats for small scholars, without desks, if needed, to be moveable, and placed as the general arrangements of the school shall render convenient.

Where there is but one teacher, the space between the desks and the entries to be used for recitation. Here, also, is the place for black boards, whether moveable or attached to the wall. This space should be 8, 10 or 12 feet wide, according to the size of the school.

The height of the room should never be less than 10 or 12 feet.

[Fig. No. 5.]



Represents an end view of the pupils' desks and seats. J, pupils' seats. K, shape of the board or plank which forms the side and support of the desks.

A light green is perhaps the best colour for the scholars' desks and seats, as it is more grateful than any other to the eye. For the outside of the house, white is the colour most universally pleasing.

PLAN OF A VILLAGE SCHOOL-HOUSE.

[This is the plan submitted to the American Institute of Instruction, by their board of Censors, in 1831.]

[Fig. No. 6.]

"Is the ground plan of a village school-house, for both sexes, containing eighty separate seats and desks. Additional seats for small children, who may not require desks, can be introduced at pleasure, and the teacher can arrange them in such situations as may be most convenient. For this purpose, a sufficient number of light, moveable forms should be furnished."

"The whole edifice, exclusive of the portico in front, which may be omitted, if a cheap, rather than a tasteful building is required,—is 58 feet long, and 35 feet wide. The dimensions of the school-room allow 21 feet of floor to each of eighty scholars, the passages, teacher's platform, &c. being included. It is believed that this allowance is not too liberal,—is more than is required for the comfort, health and improvement of the scholars."

"It may not be amiss to state, that two of the Censors teach large private schools in Boston; and in their respective schools, they allow, for each of their scholars, about 22 square feet of floor, exclusive of entries, dressing rooms, recitation rooms, &c. One of the school rooms is 16 and the other 18 feet high—the former giving about 350, and the latter about 400, cubic feet of space, to each scholar."

"The plan here proposed may be enlarged or diminished, for a greater or less number of scholars, according to the following scale:—For ten scholars, add 4 feet to the length; for sixteen scholars, add 4 feet to the width; for twenty-eight scholars, add 4 feet to both length and width. For a less number of scholars, the length, or breadth, or both, may be diminished at the same rate."

"The school-room, represented in the plan annexed, is 48 feet long, and 35 feet wide, within the walls."

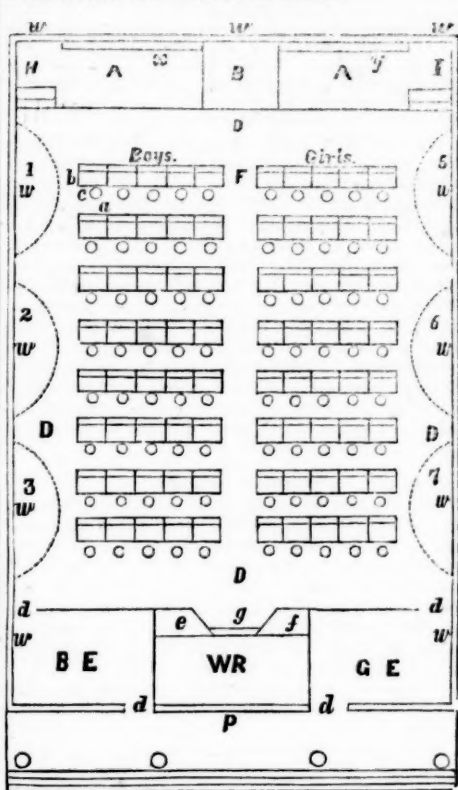
"The floor of the room should be level, and not an inclined plane. Nothing is gained by the common mode of finishing school rooms with inclined floors; and much is lost in symmetry, convenience and comfort. A faithful and active teacher will be about among his scholars, and not confine himself to a fixed seat, however favorably situated for overlooking them."

"Whether there be a stove in the school-room or not, there ought to be an open fire-place, where children may warm and dry their feet. The fire-place should be furnished with a hot-air chamber, to facilitate the ventilation of the room."

"The lids or tops of the scholars desks are usually made to slope too much. They should be nearly, if not quite horizontal,—an inch to a foot being a sufficient slope."

"Each scholar should have a separate seat, which should be confined to the floor. The seat should be about 13 inches square."

"The front rows of seats and desks, or those nearest the master's platform, being designed for the smaller children, should be lower than those near the entries."



Explanation.—P, doric portico in front of the school-house. d, d, d, d, d, doors. B, E, boys' entry, 12 by 10 feet. G, E, girls' entry, 12 by 10 feet. W, R, wood-room, 11 by 8 feet. g, fire-place. e, closet. f, sink, to be concealed by a falling door balanced with weights. D, D, D, D, passage around the room, 6 feet wide. 1, 2, 3, 4, 5, 6, stations marked on the floor, to be used by classes, when reciting to monitors. A, B, A, the teacher's platform, extending across the room, 6 feet wide and 9 inches high. B, a part of the platform to be removed in the winter, if necessary, to make room for a stove. x, cabinet for apparatus, specimens, &c. y, book-case. H, master's desk. I, assistant or monitor's desk. F, centre passage; in the plan drawn 3 feet wide, but 4 feet would be better. b, scholars' desks, 18 inches wide and 2 feet long.—c, scholars' seats. a, passages between the seats and next row of desks, 13 inches wide. A desk, seat and passage occupy 4 feet, viz. desk 13 inches, space between the desk and seat 2 inches, seat 13 inches, and passage 13 inches. w, w, w, &c. windows, which should be placed high from the floor.

Root Culture.

II.—BEETS,

Of whatever variety, whether for sugar or for cattle, require the same soil and the same culture. The mangold wurzel, or scarcity beet, has hitherto been the principal kind cultivated for farm stock, though the blood beet has been occasionally, and the sugar beet recently—both grown for this purpose.

Beets, like all tap-rooted plants, require a deep soil, as it seldom happens that the roots enlarge much in the sub-soil, or below where the earth is moved by the plough or spade. Moist loams, either of sand or clay, suit them best; though they grow on all soils not wet or very stiff, provided they are made rich and mellow. The mangold wurzel will do better on poor lands than the other sorts.

The deeper the ground is ploughed, the more thoroughly it is pulverized, and the more intimately the manure is incorporated with the earthy matters, the better prospect of a crop. Pulverization is particularly necessary to the germination of the seed. The

harrow should therefore be efficiently used before the seed is deposited in the soil.

The manner of planting the beet, of whatever kind, is in drills, which may be done either by the drill-barrow, or from the hand. Mangold wurzel should be in rows twenty-seven to thirty inches apart, and the plants, when out of the reach of insects, thinned to twelve or fifteen inches in the row, as the object is to obtain large size. The table and sugar beet may be grown in rows from twelve to twenty-four inches apart, and may be left to grow at six to ten inches in the rows—the object being not great size, but good quality—and it being found that the quality of medium or small sized roots, is better both in regard to flavor and saccharine matter, than that of very large roots. Some prefer soaking the seed, and some even sprouting it, before it is sown; as it is husky, and in case of dry weather, frequently does not germinate. But if the seed is put into fresh ploughed ground, planted early in the season, and a roller passed over the surface after it is covered, or the ground pressed with the hoe or foot, the seed seldom fails to grow. The seed should be covered three-fourths to an inch deep; and as the young plants are liable to be destroyed by the grub, and even turnip fly, it is advisable to sow thick, say from three to four pounds of seed to the acre.

In the after culture the objects are to keep the crop clean, and the soil mellow. The first dressing may be light, with a cultivator, where the breadth between the rows will admit; but when the plants are well established, the cultivator, or small plough, should be run deeper, and this operation may afterwards be repeated to advantage. The crop should be harvested as soon as it has ceased growing, which is known by the under leaves turning yellow; as if left in the ground longer, the roots deteriorate in value.

Mangold wurzel is the German name; mangold a beet;—wurzel, a root. Their culture was introduced into England, from Germany, about 1820, and more recently they have attracted considerable attention in this country. In 1830, the Doncaster Agricultural Association, an institution which has rendered vast service to the farming interest, sent abroad a circular, among the best English farmers, with a view of collecting all the information upon the culture and use of this vegetable, which was likely to be useful. Nineteen answers were received, from large growers of the root, and the society published, in a condensed form, their purport. The report states, that

"The answers are from every description of soil, the greatest number (nine) from sand, not, it appears because that kind of soil is most favorable to it, but because on sands, fallow crops, of all sorts, are more generally grown than any other; six are from peat, four from clay, four from chalk or lime-stone.

"The method of sowing appears to be drilling or dibbling on ridges, from twenty-seven to thirty inches apart, and afterwards singling out the plants in the rows, at about sixteen or eighteen inches from each other; the period of sowing, any time between the middle of April and end of May; on cold soils earlier than on warm.

"The tops and leaves should be ploughed into the land immediately." In comparing the quantity of manure used for Swedish turnips and mangold wurzel, it appears from the answers of those farmers who have tried mangold wurzel longest, that both require nearly an equal quantity, ten or twelve two horse cart loads per acre. With respect to the comparative product of the two crops, it appears to be in favor of mangold wurzel in the proportion of about one-fifth. The greatest weight obtained is by Mr. Simpson, of Babworth,—54 tons. Of our correspondents, ten decidedly prefer mangold wurzel, two give a partial preference to Swedes, and the rest have not expressed an opinion.

"The feeding properties of mangold wurzel and Swedes are an important part of our investigation. Lord Althorp alone has tried their comparative merits; and he gives them a decided preference over the Swede. In this opinion his lordship is supported by Mr. Kelk; but seven of our correspondents are of the opinion that the Swedish turnips will feed quicker. Five of our correspondents say it is beneficial to milch cows, and two of the Norfolk farmers say it is apt to injure the butter.

"To sum up—the advantages of mangold wurzel are these—

It is more sure to plant, being very little liable to the fly or grub.

It will produce more weight.

It is off the land earlier.

It is useful as a change of fallow crop when the land is tired of turnips.

It will grow on land where turnips cannot be raised.

It is better spring food.

"On the other hand, in favor of the Swedish turnips it may be said—

That the weeding and singling out are less expensive.

There is more time for fallowing in the spring.

* After the roots are harvested.

The succeeding crop is better than after mangold wurzel.

Perhaps cattle feed best on Swedish turnips when they are fed alone."

Mangold wurzel is relished by every description of stock; though in feeding it to neat cattle, it is recommended to commence with small feeds, and when it produces bad effects, to change the animal's food for a few days. Charles Poppy, an enthusiast in this culture, and whose pamphlet is before us, particularizes twenty-six uses to which this root may be profitably applied.

The British farmers speak highly of this root as a food for young calves. It is cut small, and fed to them after they are a fortnight old, with wonderful benefit.

The value of this crop is certainly great in the economy of the farm. Estimating the product at twenty tons an acre, it will give 746 bushels of sixty pounds each; which, at the rate of two bushels a day, would keep a cow, with the addition of a little straw or chaff, 373 days, or somewhat more than a year. Two tons of hay, the average product of an acre, would keep the same animal, allowing a quarter of a hundred per diem, but 160 days, or about one-third of the time that the wurzel from an acre would keep her—and the animal would be better, in flesh and milk, on the roots than she would be kept on the hay.

In storing and keeping the mangold wurzel in winter, the same precautions must be taken, and the same means must be adopted, as are required for securing potatoes and ruta бага. If deposited in pits, these should be narrow, and ventilating holes made in the crown of the pits. They are more liable to be injured by frosts than the ruta бага.

III.—THE CARROT.

Col. Meacham has anticipated us in giving the culture and profits of this root, in his communication published in our last. Nevertheless we will throw all the new light upon the subject which our experience and our reading afford.

The soil best adapted to the growth of the carrot is a deep sand loam. The preparation of the ground consists in ploughing to the depth of a foot, the application of rotten manure, to be well incorporated with the soil—except long manure has been applied to the previous crop—and complete pulverization. Ploughing the fall previous for the crop is recommended.

The kind of carrot best adapted to field culture is the long red. The seed should be of the preceding year's growth. The mode of culture is best in drills, though in Suffolk, England, sowing broadcast is preferred. We have modern drill-barrows adapted to the sowing of this seed, though the sowing it by hand is not a tedious process—as a man may go ahead in sowing in this way as fast as another drives a barrow. The difference consists in making the drill with the hoe and covering the seed. As the seed is of peculiar lightness, it is apt not to vegetate well if the surface is light; and the practice has obtained, with large growers, of preparing it before hand, by mixing five pounds of seed with a bushel of sand or fine mould, a week or two before hand, and of moistening and turning the mass frequently; by this means not only do all the seeds grow, but the plants come up quickly, and get the start of weeds. Two pounds of seed is enough for an acre when sown in drills, though five pounds are often sown on an acre broadcast. Von Thaeer uses poudrette, instead of mould, in the preparation of his seed. The drills should be eighteen inches apart, and the plants thinned to six or eight inches. The seed should be sown early in or by the middle of May.

The after culture of carrots consists in keeping them free from weeds, and the surface of the soil open; and as the rows are too near to admit of the plough or cultivator, the hand hoe must be depended on.

The best mode of harvesting the crop is that adopted by Col. Meacham—turning the earth from the row with the plough, and then drawing them with the hand.

The ordinary yield of the carrots is less than that of ruta бага or mangold wurzel—the average may be stated at 400 to 500 bushels the acre, though the product has exceeded 1000. They are so hardy, that in the south of England they are permitted to stand out in the winter; but with us they should be gathered and secured like other roots, in October.

The carrot is eaten by all sorts of farm stock, but is particularly useful for horses and milch cows, serving as a substitute for grain with the former, and increasing and improving milk when fed to the latter: Mr. Burrows, one of the greatest growers of this root, has fed ten cart horses with them, during the winter months, and up to June, with hay, and without the addition of grain. Such does he consider their economy in horse feeding, that he states, as demonstrated by his experience, that with the assistance of lucerne for soiling in summer, a workhorse may be kept the entire year round upon the produce of only one acre

of land. Mr. Burrows feeds seventy pounds a day to a horse, cut or whole, and mixed with chopped hay—reducing the quantity somewhat in the short days of winter, and increasing it a little in the spring months. Other growers feed only forty or fifty pounds a day. An acre of carrots, yielding 600 bushels, fed fifty-six pounds a day, would therefore be equivalent to 300 bushels of oats, fed half a bushel a day, to a working horse.

To save seed, save select roots, and keep them in sand in the cellar till spring, plant them out early, and the seed will be ripe in August. Preserve it on the seed stalks till wanted.

IV.—THE PARSNIP.

Is generally believed to be more nutritive than any of the roots we have treated of; the product to be greater than that of the carrot or potato, with the advantage over them both, that the parsnip is not injured by frosts. Yet its culture as a field crop has hitherto been very limited.

The parsnip may be grown on stiffer land than the other roots we have named, provided it has a rich deep tilth. It requires the same treatment as the carrot, though we would prefer intervals of eighteen inches between the rows, as in good soil the tops grow large. The Jersey variety is preferred, on account of small growth of top. Sow early, at the rate of four or five pounds of seed to the acre, and keep the crop free from weeds.

The Silk Business.

Notwithstanding all the reaction it is likely to encounter from the extravagance of the *Morus Multi-caulis* speculation, will, nevertheless, yet become a great business in our country, and one of certain profit to the farmer who embarks in it—not as a dependence, or a speculation, but as a collateral branch of his farming operations. Let no one give up for the mulberry, the culture of grain, grass, or roots—or omit the rearing of cattle, or the ordinary means of increasing the fertility and profits of his farm. Let the course of general improvement of the farm go on. But at the same time, with a small outlay, he may begin to plant the mulberry—not upon his best fields—but upon his waste grounds—upon such as are dry and stony—along his division fences, and about his buildings, where they will least interfere with his ordinary farm products. He may plant them in hedges. A few thousand eggs, will cost but a trifle, when his trees are sufficiently advanced to yield foliage to feed his worms. The business of gathering the leaves, and taking care of the worms, is but one of 30 or 40 days. It can be done altogether by the inmates of the family, without taking any thing from the ordinary labors of the farm. It can be done, and should be done, by the women and children. No expensive coconery is necessary for farm purposes. A room in the dwelling, or a shed, to protect the worms from the weather, may be spared on almost any farm, for the small time it is wanted for this purpose. The silk which is produced in this way, may be considered a clear gain to the family which produces it, be it fifty dollars, or be it five hundred dollars.

In regard to the kind of mulberry to be cultivated, we really feel incompetent to advise. We do not believe there is any great difference in the value of the silk which is made from the different varieties of the mulberry. One may be of finer or softer appearance, another of more substantial fabric, but all of intrinsic value, and adapted to particular purposes. The preference given to large leaves, we think less of, than most others do: for we are induced to believe, that the Asiatic mode of taking the young twigs, instead of the leaves only, for the worms, is preferable, as the first will remain succulent and fresh the longest. And if planted in hedge, a dozen bushels may be taken in so many minutes, with a bill-hook, and without prejudice to the hedge. So that in our opinion, the principal question to be decided by those who intend to grow them for their own use, is, what kind is best adapted to one's soil and climate.

Those who will submit to the trouble of taking up the *multicaulis* in the fall, and re-planting it in the spring—or of cutting it to the ground, and covering the stump during winter, will perhaps best subserve their interest by selecting this variety; though if they expect to have it withstand our severe winters, unscathed, in the open ground, except in solitary instances, and in peculiar dry and poor soils, they will certainly be disappointed. The same remarks, will in some measure apply to the white mulberry, in the country north of Albany. We have tried both the *multicaulis* and the white mulberry for years; the first has died wholly, and the last partially.

We last spring planted out some trees of the *Brunsa* and *Canton*, and sowed seeds of the former, and left the trees, and a part of the seedlings, to the open exposure of the weather. The trees threw out many branches, which grew from three to four feet—the seedlings, growing very thick in garden soil, reached 15 inches. On examining them to-day, we find two

to six inches of the extremities of the branches of the Brussa dead, but the main stems and branches otherwise perfectly sound and uninjured. The Canton have suffered somewhat more, about half the last year's growth being killed—though their position for ripening the wood, was not so good as that of the Brussa. The Brussa seedlings are killed down a third to a half of their growth. These were in luxuriant growth, and consequently tender, when the frosts of autumn came upon them. From this experiment, we are led to infer, that both these species of the mulberry may be planted in this latitude with tolerable prospects of success. We think them both more hardy than the white mulberry, and much more hardy than the multicaulis.

Of several new kinds of the mulberry, of recent introduction, as those denominated the Alpine, Moretta, Expansa, &c., we know nothing from personal observation. The leaves of the native red mulberry, which grows in our woods, certainly produce good silk, and the tree is perfectly hardy; and it may yet become the favorite in our borean climate.

Our remarks are intended to apply to the north.—The multicaulis will unquestionably be the favorite species for the middle and southern states, on account of the facility of its rapid propagation, if for no other reason. And we were not a little surprised, on being told, a day or two ago, that numerous small green-houses had been erected in East Vermont, expressly to carry on the winter propagation of this valuable exotic. Large quantities have been sent on from Florida, to supply our market. Some trees have brought four dollars each. Judge Comstock has advertised, that he has had a large quantity in a course of growth, during the winter, in the island of Cuba, which he soon expects to have on hand for sale.

Butter Making.

A nice process of butter making, as practised by John M. Weeks, of Salisbury, Vt. is given in the *Yankee Farmer*. Mr. W. makes three qualities of butter; one, he says, worth 38 cents, being the pure buttery matter, of exquisite flavor; the second, worth 19 cents; and the last 9 or 10 cents, a gluey substance, and insipid in taste. Mr. W. heats his milk, after the animal heat has passed from it, but to what temperature he does not say, and then sets his pans in cool running water; and when cold, they are raised, and the milk skimmed in 6 to 18 hours. We guess, for the gentleman has not told us, that the first skimming is made before the milk is put into the running water, or perhaps before it is heated, and the last, at the end of the 18 hours. The butter is salted and worked when it comes from the churn, worked again the next day, without cold-water in any of the processes, and then packed tight in tubs, lined with bags, previously saturated with bees-wax, and covered on the top with a clean pickle. The great requisites in making and preserving good butter, are:

1. That every thing should be cleanly in the whole process.
2. That the milk should be kept at a proper temperature, say from 45 to 55°, while the cream is separating.
3. That the cream should be taken off and churned, before its quality is impaired.
4. That its temperature should be from 55 to 65° when put into the churn, and the churning should be moderate and uniform.
5. That salt, of the best quality, in sufficient quantity to suit the palate, should be blended with it at the first working, and the buttermilk completely got out by the butter ladle.
6. That the working of the butter should be repeated at the end of 24 hours, when the salt has become completely dissolved, and all the liquid extracted—and,
7. That it should be packed, without more salt, to make it weigh, in stone jars, in wooden firkins or tubs, such as will not impart to it any taint or bad flavor—and in such manner as will totally exclude the atmosphere.

Butter made in this way, will be of fine flavor; and if put down and kept in this way, the flavor will be preserved for an almost indefinite period, if kept in a temperature below 70°. Water, mixed either with the milk, the cream, or the butter, and especially soft water, adds nothing to, but materially abstracts from richness of flavor. We have no doubt of the position assumed by Mr. Weeks being correct, that milk skimmed at three several times, will give three qualities of butter—that being taken off first being the richest and most valuable.

The common remark of our good butter-women, is, that "my butter is good enough"—and many think so, whose butter is very inferior. But as the principal object of the dairy-woman is gain, and as butter will sell according to its intrinsic value, every one should seek to improve, if not to please themselves, to please their customers, and not for the sake of "filthy lucre."

Sub-soil Ploughing,

Seems to be coming into great vogue in England, and is noticed and commended at most of the agricultural shows. It produces a great increase of crop; though it is not likely to supersede furrow-draining, but after the latter, especially upon stiff clays, its effects are capital. A communication was made to one of the local societies by Mr. Harrison, stating the expense of draining and sub-soil ploughing nine acres, very heavy clay, the furrow drains cut at 15, 20, 30, and 40 yards, in parallel lines across the field, before the sub-soil plough was introduced. The expense was £7 6s.—(\$32 40,) the acre. The sub-soil plough was propelled by 8 horses, and attended by three men and two boys. The draining was £5 10s. and the sub-soil ploughing £1 16s. The sub-soil plough for light lands weighs 200 or 250 lbs.—for stiff clays 400 lbs. Price from £5 10s. to £8.

American Mulberry.

A gentleman in Kentucky has been for some years engaged in feeding silk worms on the leaves of our indigenous mulberry. He sells sewing silk annually to the amount \$900, besides clothing his family. He has been offered the multicaulis, Brussa and other kinds, but he has declined them all, and sticks to the native. We have this information from a gentleman from Kentucky, who is his neighbor, and who adds, that he, the silk culturist, lately married a daughter, who was clothed in silk from his domestic establishment. Our informant calls the mulberry black, but we rather think it is the red (*M. rubra*) of botanists, as the former is not known to be indigenous; and as the berries of the red are black when ripe.

Drill Husbandry,

We have no doubt will ultimately come into vogue among us—we mean in the culture of wheat and other grains—though for a long time its progress will be slow. At the late Preston agricultural meeting in England, the question proposed for discussion was—"the comparative advantages of the drill and broadcast systems of husbandry." Mr. Binns ably advocated the drill system, and set forth its advantages under the following heads.

1. The seed is delivered with regularity.
2. It is deposited at proper depth.
3. The weeds, during the growth of plants, are destroyed with great facility.
4. The plants cultivated receive the undivided benefit of the soil and manure, and have not to maintain a constant struggle with weeds.
5. The land by the process of hoeing, is undergoing preparations for another crop.
6. The necessity of summer fallowing is avoided.
7. By admission of the sun and air between the rows, a stronger and healthier plant is produced, and of course a heavier crop.
8. By stirring the soil it is more susceptible of benefit from the atmosphere, imbibing more oxygen, and being both warmed and enriched by the sun.
9. The roots shoot freely in pulverized soil.
10. By drilling, the farmer is enabled to have heavier crops of beans and wheat on light land.
11. Clover and grass seeds answer incomparably better in the pulverization produced by hoeing, independent of the clearness from weeds.
12. The drills give facility for depositing smaller portions of manure with greater effect.

These advantages are all self-evident to a good farmer; and it might have been added, as a thirteenth advantage, that drilling economizes seed, though Mr. Binns rejects it, on the ground, that if the plants are thin, they throw out side shoots, which produce imperfect grain, and ripen unequally. In drill husbandry, Mr. B. affirms, fifty-six bushels of wheat have been raised on the light soils of Norfolk.

The drills employed in sowing wheat, &c. are drawn by a horse, and sow six or eight rows at a time at a required distance, dropping and covering the seed. The machine for clearing between the rows, is also drawn by one horse, and consists of a frame with six hoes fixed to it, which occupies the same space as the drill. The rate of drilling is an acre per hour. Wheat is drilled at nine inches between the rows, and barley at seven. The horse hoe is used once, and the hand hoe twice. The expense of weeding, in England, is stated at two shillings (forty-four cents) per acre.

There was, some years ago, an excellent drill presented for examination, to the Albany County Agricultural Society, by a gentleman living in the west part of Oneida county; but as then drill husbandry was little understood, and its advantages less appreciated, the machine attracted but little attention, and has gone, we believe, to the tomb of the Capulets, to spring up again, we hope, phoenix like, in a better and more popular form.

Agricultural Education.

The public attention in Europe is awakened on this subject, as well as in America; and not only are

schools specially devoted to this study continually rising up, but ample provisions are being made to introduce elementary books upon agriculture into the common or primary schools.

It appears from the French *Annals of Agriculture*, that there were three prizes of one thousand francs each, awarded last year in France, to three authors of elementary works upon agriculture, prepared for the use of schools; and also two gold medals, and one silver one, to the authors of three other like essays. And in the list of prizes offered for the current year, we find one of 1000 francs, for the composition of elementary books upon agriculture, for children in schools.

We make the extracts below, from the proceedings of British agricultural Societies, at the autumnal meetings, to show, that the importance of education to those who till the soil—to those who furnish the bread and meat to feed the nation, is attracting much public attention there.

"Mr. Brewster, [in the Stafford Waldron meeting,] observed, that the system of their fore-fathers, however good, was to be much improved by the assistance of education, and the combination of science, and the exploration of the mineral and vegetable kingdoms. He also impressed upon the meeting the advantage of combining theoretical with practical knowledge."

"You never can forget, that England's greatness is based on her agriculture."—J. Gibson.

"Agriculture should be regarded in a more scientific point of view, [John Greg, in the Northumberland meeting,] and the principles of science applied to it. These principles ought to be followed out by men of science, for the public benefit. . . . There is a great field to be discovered here, but not by the mere practical farmer, but by the researches of scientific men. Gentlemen, in prosecution of subjects of this kind, agriculture may be considered as yet in its infancy; and I am of opinion, that in the next sixty years, a still greater advance will be made, than in any similar period which has passed."

"His Lordship, [Lord Braybrook, in the Stafford Waldron meeting,] also exhorted agriculturists, to give to their children that sort of education, which was unknown when the elder agriculturists were young. Next to a conscience devoid of reproach, no blessing could be greater than that of possessing a well cultivated mind. The greater degree of instruction agriculturists gave to their children, the more happy they would make them—for the seeds of knowledge, properly sown, would come up and produce an hundred fold."

"This difficulty [said Mr. Binns, at the Preston meeting,] arises in a great measure, from the want of the same education amongst farmers that other classes enjoy. The scientific men, who make and recommend experiments, want practice; and the practical men, want science and education. For want of a knowledge in science, in cause and effect, farmers are not able to communicate their ideas and facts with the same facilities as others, nor properly to reason upon them. The merchants and manufacturers are congregated in towns, and have the advantage of libraries, lectures, newspapers, and a more ready communication with each other.—Even mechanics have great advantages over farmers. Let us then shake off the lethargy with which we are so justly charged, and be determined, as well as we can, to keep pace with the manufacturers."

"Other advantages would attend [agricultural] education. It would infuse an admiration of nature. This would not only refine the mind, and lead it to enjoy intellectual pleasures, before unthought of, but it would add to the blessings which surround us, unheeded and unenjoyed. It would increase the pleasures of social intercourse—it would teach humanity and kindness to all around us, and to the brute creation, and it would also increase our comforts in every shape. Is there any reason why the farmer should not take his rank in intellectual society? The youthful mind ought to be instructed in the principles of vegetation, the production of fruits and flowers, chemical agency, and the study of electricity, that mighty and mysterious power, which operates through earth and air in a manner very imperfectly understood. The advantages of science, are beautifully expressed by the Rev. Mr. Whewell, at the late meeting at New-Castle.—The vast scheme of law, and order, and beauty, to which science introduces us, only lifts our thoughts to that great Being, in whom are the fountains of law and order, and who makes the earth his footstool, and the heavens his temple."

"Agriculture was one of the most important, useful, and elegant sciences, [Mr. Gray, in the Lancashire meeting,] and took cognizance both of our subsistence and our comforts. The cause of the slow adoption of improvements by farmers, was the want of education among them. The manufacturer had opportunities of educating his children, which the farmer did not enjoy; and some system whereby farmers sons may receive a better education, would tend more than any thing else to relieve them from this reproach. They would then be better able to appreciate works of agricultural information, and would attend meetings of this sort."

"Let practical agriculturists, or their children, be educated [in the science which benefits their business,] then we should see agriculture make rapid strides. Let the children of farmers be also taught the elements of mechanics, chemistry, the nature of manures, plants and vegetation."

"It is as important to the country, that agriculture should be scientifically understood and studied, as that

manufacturing science should progress. The mere culture of the land is nothing, except it is conducted on the best possible principles. To plough and manure—to sow and reap—to break up and lay down land—to breed and to rear stock, and to farm, and labor on a farm, merely as they who have passed away did, is no great merit. This is merely to exercise an imitative talent. The resources of the mind ought to be brought to the labor; and profiting not only by experience, but in learning by experiment, we may hope to see improvement progress in an equal ratio in agriculture as in mechanics; and the knowledge, that the stores of experimental philosophy affords, be applied to this, the most useful of all the arts, because it produces the raw material, on which the human race is fed and clothed. When the mere operative farmer knows the value of science, he will then see that it is the best auxiliary to the production of agricultural wealth; and learn the secret, why his better informed neighbor, who has devoted some attention to such pursuits, has beat him in the cause of enterprise."—*Chester Chronicle*.

The Importance of Pure Air,

To health, is in a manner unknown to the mass of mankind, and we believe it has been but partially known, even to the learned, until recently. And even where its importance has been known, due regard has not been had to secure its blessings. The purity of the air is destroyed by animal respiration, by putrifying animal and vegetable matters, by stagnant waters, and even, we believe, by becoming stagnant itself, under a warm temperature. Impure air exercises its deleterious influence upon the human system, in all damp or ill ventilated rooms—in the neighborhood of all putrifying animal and vegetable matters—of low marshy situations, and of stagnant waters—and in crowded close rooms, whether these rooms be jails, school-houses, work shops, temples of religious worship, or temples of fashionable folly.

Gen. Mann, the secretary to the Massachusetts Board of Education, whose recent lectures in our city were listened to with the highest admiration, by thousands of hearers, has recently published a pamphlet, pointing out the defects in our school-houses, and suggesting correctives. Two of the prominent evils which are too common, are *bad location*, and the *want of ventilation*, or a due provision for securing to the pupils the constant advantages of pure air. As we shall make this report the subject of another article, we shall content ourselves, for the present, with noticing such facts as go to illustrate the importance of pure air to health.

"It seems generally to have been forgotten," says our author, "that a room designed to accommodate fifty, one hundred, and, in some cases, two hundred persons, should be differently constructed from one intended for a common family of eight or ten only. In no one particular is this difference so essential as in regard to ventilation. There is no such immediate, indispensable necessity of life, as fresh air. A man may live for days, endure great hardships, and even perform great labors, without food, without drink, or without sleep; but deprive him of air for only one minute, and all power of thought is extinct; he becomes as incapable of any intellectual operation as a dead man, and in a few minutes more, he is gone beyond resurrection. Nor is this all; but just in proportion as the stimulus of air is withheld, the whole system loses vigor. As the machinery in a water mill slackens when the head of water is drawn down; as a locomotive loses speed if the fire be not seasonably replenished; just so do muscle, nerve and faculty, faint and expire, if a sufficiency of vital air be not supplied to the lungs.

"The common or atmospheric air, consists mainly of two ingredients, one only of which is endued by the Creator with the power of sustaining animal life. The same part of the air supports life and sustains combustion; so that in wells or cellars, where a candle will go out, a man will die. The vital ingredient, which is called oxygen, constitutes only about twenty-one parts in a hundred of the air. The other principal ingredient, called azote, will not sustain life. This proportion is adapted, by omniscient wisdom, with perfect exactness, to the necessities of the world. Were there any material diminution of oxygen, other things remaining the same, every breathing thing would languish, and waste, and perish. Were there much more of it, it would stimulate the system, accelerating every bodily and mental operation, so that the most vigorous man would wear out in a few weeks or days. . . . About four parts of the twenty-one of vital air are destroyed at every breath; so that, if one were to breathe the same air four or five times over, he would substantially exhaust the life-giving principle in it, and his bodily functions would convulse for a moment and then stop. As the blood and the air meet each other in the lungs, not only is a part of the vital air destroyed, but a poisonous ingredient is generated. This poison constitutes about three parts in a hundred of the breath thrown out from the lungs. Nor is it a weak, slow poison; but one of fatal virulence and sudden action. If the poisonous parts be not regularly removed, (and they can be removed only by inhaling fresh air,) the blood absorbs them, and carries them back into the system. Just according to the quantity of poison forced back into the blood, follow the consequence of lassitude, faintness or death. The poisonous parts are called carbonic acid. They are heavier than the common air, and

as the lungs throw them out at the lips, their tendency is to fall towards the ground or floor of a room, and if there were no currents of the air, they would do so.—But the other parts of the air, being warmed and rarified by the lungs, are lighter than common air, and the moment they pass from the lips, their tendency is to rise upwards towards the sky."

More strongly to demonstrate the deleterious influence of breathing foul air, Gen. Mann addressed to Dr. Woodward, of the Lunatic Hospital at Worcester, the following with other queries. A portion of Dr. W.'s reply follows.

"Second query.—What general effects will be produced upon the health of children, by stinting their supply of fresh air, through defects in ventilation?"

"The blood," says the doctor, in reply, "as it circulates through the vessels in our bodies, accumulates a deleterious principle called CARBON, which is a poison itself, and must be discharged frequently, or it becomes dangerous to life. In the process of respiration or breathing, this poisonous principle unites in the lungs with a proportion of the oxygen of the air, and forms carbonic acid, which is expelled from the lungs at each expiration. The proportion of oxygen in the air received into the lungs, is about twenty-one in the hundred: in the air expelled, about eighteen in the hundred;—the proportion of carbonic acid in the inhaled air is one part in the hundred, in the exhaled air about four parts in the hundred. By respiration, an adult person spoils, or renders unfit for this vital process, about one gallon of air in a minute. By this great consumption of pure air in a school-room, made tight and filled with scholars, it will be easily seen that the whole air will soon be rendered impure, and unfit for the purpose for which it is designed. If we continue to inhale this contaminated air, rendered constantly worse the longer we are confined in it, this process in the lungs will not be performed in a perfect manner; the carbon will not all escape from the blood, but will be circulated to the brain, and produce its deleterious effects upon that organ, to which it is a poison. If no opportunity be afforded for its regular escape, death will take place in a few minutes, as in strangulation by a cord, drowning and immersion in irrespirable air. The cause of death is the retention and circulation of this poisonous principle, in all these cases.

"If a smaller portion is allowed to circulate through the vessels than will prove fatal, it produces stupor, syncope, and other dangerous effects upon the brain and nerves. In still less quantity, it produces dullness, sleepiness, and incapacitates us for all mental efforts and physical activity. The dullness of a school, after having been long in session in a close room, and of a congregation, during a protracted religious service, are often attributable to this cause mainly, if not solely.—Both teacher and scholar, preacher and hearer, are often greatly affected in this way, without being at all sensible of the cause. Fifty scholars will very soon contaminate the air of a school-room at the rate of a gallon a minute.

"Suppose a school-room to be thirty feet square and nine feet high, it will contain 13,996,000 cubic inches of atmospheric air. According to Davy and Thompson, two accurate and scientific chemists, one individual respires and contaminates 6,500 cubic inches of air in a minute. Fifty scholars will respire 325,000 cubic inches in the same time. In about forty minutes, all the air of such a room will have become contaminated, if fresh supplies are not provided. The quantity of carbonic acid produced by the respiration of fifty scholars, will be about 750 cubic inches in an hour."

So far on air becoming vitiated and unfit for breathing, by reason of its having been taken upon the lungs. The extract which we make below, from the report of the English poor-law commissioners, shows other causes of the air becoming deleterious and poisonous to a fatal extent. Every individual has a deep interest in knowing the

SOURCES OF FEVER.

"It is a matter of experience that, during the decomposition of dead or organic substances," says the report, "whether vegetable or animal, aided by heat and moisture, and other peculiarities of climate, a poison is generated, which, when in a state of high concentration, is capable of producing instantaneous death, by a single inspiration of the air in which it is diffused.

"Experience also shows that this poison, even when it is largely diluted by admixture with atmospheric air, and when, consequently, it is unable thus to prove suddenly fatal, is still the fruitful source of sickness and mortality, partly in proportion to its intensity, and partly in proportion to the length of time and the constancy with which the body remains exposed to it. Facts without number, long observed, such as the great amount of sickness and mortality in marshy districts, the fevers and dysenteries incident to armies on their encampment on certain localities, several hundred men being sometimes seized with disease in the course of a single night, and great numbers dying within twenty-four or thirty hours; the dreadful destruction which frequently took place in ship's crews, in ships in which cleanliness had been neglected, and especially in which the bilge water had been allowed to collect and putrify, sufficiently attested the presence, in certain situations, of deadly poison. But this poison was too subtle to be reduced to a tangible form. Even its existence was ascertainable only by its mortal influence upon the human body; and although the induction commonly made as to its origin,

namely, that it is the product of putrifying vegetable and animal matter, appeared inevitable, seeing that its virulence is always in proportion to the quantity of vegetable and animal matters present, and to the perfect combination of circumstances favorable to their decomposition, still the opinion could only be regarded as an inference.

"But modern science has recently succeeded in making a most important step in the elucidation of this subject.

"It has now been demonstrated by direct experiment, that in certain situations in which the air is loaded with poisonous exhalations, the poisonous matter consists of vegetable and animal substance in a high state of putrescency. If a quantity of air in which such exhalations are present be collected, the vapor may be condensed by cold and other agents: a residuum is obtained, which on examination is found to be composed of vegetable or animal matter, in a state of high putrefaction. This matter constitutes a deadly poison. A minute quantity of this poison, applied to an animal previously in sound health, destroys life, with the most intense symptoms of malignant fever. If, for example, ten or twelve drops of a fluid containing this highly putrid matter, be injected into the jugular vein of a dog, the animal is seized with acute fever; the action of the heart is inordinately excited, the respiration becomes accelerated, the heat increased, the prostration of strength extreme, the muscular power so exhausted that the animal lies on the ground, wholly unable to stir, or to make the slightest effort; and after a short time it is actually seized with the black vomit, identical in the matter evacuated with that which is thrown up by a person laboring under the yellow fever. By varying the intensity and the dose of the poison thus obtained, it is possible to produce fever of almost any type, endowed with almost any degree of mortal power.

"It is proved further, that when this poison is diffused in the atmosphere, and is transported to the lungs in the inspired air, it enters directly into the blood, and produces various diseases, the nature of which is materially modified, according as the vegetable or the animal matter predominates in the poison. In the exhalations which arise from marshes, bogs, and other uncultivated and undrained places, vegetable matter predominates; such exhalations contain a poison which produces, principally, intermittent fever or ague, or remittent fever.

"The exhalations which accumulate in close, ill-ventilated, crowded apartments, in the confined situations of densely populated cities, where no attention is paid to putrifying and excrementitious substances, consist chiefly of animal matter; such exhalations contain a poison which produces continued fever of the typhoid character. There are situations, as has been stated, in which inspiration of it is capable of producing instantaneous death; there are others, in which a few inspirations of it are capable of destroying life in from two to twelve hours; and there are others again, as in dirty and neglected ships, in damp, crowded and filthy jails, in the crowded wards of ill-ventilated hospitals, filled with persons laboring under malignant surgical diseases, and some forms of typhus fever in the crowded, filthy, close, unventilated, damp, undrained habitations of the poor, in which the poison generated, although not so immediately fatal, is still too potent to be breathed long, even by the most healthy and robust, without producing fever of a highly dangerous and mortal character.

"But it would be a most inadequate view of the pernicious agency of this poison, if it were restricted to the diseases commonly produced by its direct operation.—It is a matter of constant observation, that even when not present in sufficient intensity, to produce fever, by disturbing the function of some organ, or set of organs, and thereby weakening the general system, this poison acts as a powerful predisposing cause of some of the most common and fatal maladies to which the human body is subject.

"The deaths occasioned in this country by diseases of the digestive organs, for example, by inflammations of the air passages and lungs, and by consumption, form a large proportion of the annual mortality. No one who lives long in or near a malarian district, is ever for a single hour, free from some disease of the digestive organs. By the disorder of the digestive organs, the body is often so much enfeebled, that it is wholly incapable of resisting the frequent and sudden changes of temperature to which the climate is subject; the consequence is, that the person thus enfeebled, perishes by inflammation set up in some vital organ, and more especially in the air-passages and lungs, or by consumption, the consequence of that inflammation. If, then, as is commonly computed, of the total number of deaths that take place annually over the whole surface of the globe, nearly one-half is caused by fever in its different forms, to this number must be added the number who perish by the diseases caused by the indirect operation of this poison."

The preceding extracts will serve to explain in what way air becomes poisonous to health,—will account for the faintings that often take place in crowded close rooms, and the indisposition that not unfrequently follows the visiting such assemblies. They are full of instruction for the every day business of life; and although we have recently pointed to some of the precautions which these facts urge upon us, yet the importance of the subject to health, will justify our repeating them. They admonish us,

1. To make our school-houses more roomy,—to adapt them to perfect and frequent ventilation—to

preserve cleanliness in and about them—to give them healthy locations, remote from marsh air, with ample play grounds and shade trees, to repel or mitigate the heats of summer and the cold of winter.

2. To build our dwellings on dry healthy locations—not to obstruct a free circulation of air about them by high fences or out buildings, or let any species of dead animal matters accumulate about them to poison the atmosphere.

3. To ventilate well our sleeping rooms, which should not have stoves, except to expel dampness, nor should the doors be closed at night in private dwellings, of apartments where there are several inmates.

4. To take special care to permit no vegetable putrefaction to take place in the cellars under our dwellings—to have these so that a current of fresh air may be made to pass through them whenever the temperature of the atmosphere will permit—to have them dry, and cleaned and whitewashed as early in the spring as the season and circumstances will permit.

5. To have our cattle-yards, stables and pig-sties so far from our dwellings, as that we shall not be obliged to breathe the poisonous exhalations arising from them; and carefully to remove from these in the spring, and as often at other times as good health and good husbandry require, all the dung and putrefying matters of which they may become recipients.

6. As domestic animals are affected equally with ourselves, the same care, as to cleanliness and ventilation, should be extended to them—clean ventilated stables, dry sheds to protect from the weather, and well littered yards—and the dung should not be permitted to ferment in the yard faster than it can be removed and covered in the soil, for the hoed crops of the season. The exhalations from summer yarded dung, especially where the cattle-yard or hog pen is contiguous to the house, circumstances which ought never to occur, have a most deleterious influence upon health.

7. A regard to health, as well as a desire to increase the productiveness, and to improve the beauty, of our grounds, should induce us to clear up and drain marshes, swamps, and all lands which abound in stagnant waters, the certain source of deadly malaria. The large tract of country lying in the neighborhood of Rome, termed the Campania, was, in the times of Roman greatness, well drained, and was healthy and extremely populous. In modern times the draining has been neglected, the population have virtually disappeared, and the deadly malaria, generated by its marshes, is annually the terror and the destroyer of man and beast.

8. And lastly, we should avoid many of the evils of vitiated air, by a particular attention to personal cleanliness. A large portion of the food which we daily consume is thrown to the surface by insensible perspiration, where, unless aided in its escape by exercise in the open air, change of clothing, or frequent ablutions, it accumulates, obstructs the healthful offices of the skin, vitiates the air which we breathe, and induces disease. The odor given off by diseased persons, or those of dirty habits, and particularly by blacks, indicates the presence of those poisonous matters, which are ever obnoxious to health. Grown persons, according to Lavoisier, throw off an average of five pounds per day, of impure matter, through the skin, highly charged with poisonous properties; and if not habitually removed by habits of cleanliness, they must taint and poison the air we breathe.

The Mind and the Soil.

In cultivating the soil, we have our seed-time and our harvest-time; and we all very well know, that if the good seed is not deposited in good time, the harvest will be scanty, or will fail. We can reap only what we sow, unless it be the weeds and noxious plants which spring up spontaneously from our neglect. So it is with the mind. It has its seed-time and its harvest-time—its vernal season of youth, and its summer season of manhood. And the good seed we sow in the young mind, will as assuredly grow, and give its increase, as that which we deposite in the soil. Our crops tend to increase our wealth, and add to our animal enjoyments. The improvement of the mind not only tends to these desirable ends, by aiding the labor of the hands, but it tends to knowledge, to virtue, to happiness.

Do we estimate these things rightly, and give to each its relative value? Do we not graduate the wages of the laborer, who cultivates our soil, by the measure of good he can render us? And do we not graduate the wages of the teacher, who cultivates the minds of our children by a very different principle—by the small amount which his wants or his limited capacity compels him to take? Are we not apt to make merit the criterion of our choice in the cultivator of the soil, and the want of it the criterion of our choice in the cultivator of the mind? And yet, all most acknowledge, that qualification and excellence are as much more indispensable in the latter, than

it is in the former, as mind is superior to matter—as a good man is superior to a good crop. Who would not feel a higher pride in rearing a family of intelligent, virtuous and useful children, than in rearing a fine beast, or in raising a great crop of corn? Let us try to mend in this matter—to get good laborers in the mental and moral, as well as in the vegetable field of culture. Then shall our children “rise up and bless us.”

Agricultural Books for Common School Libraries.

Mr. Beebe, of Lima, inquires of us, what agricultural books are suitable for a common school library? We are glad the question has been asked us, but regret that we cannot answer it more satisfactorily to ourselves and to our correspondent. The demand for books upon agriculture has been so limited, that there has been but little inducement to write or publish them. The dependence of those who have wished to improve their practice in husbandry, has been principally upon British publications, not well adapted to our practice, however correct in the principles upon which good practice must be based—and upon the agricultural periodicals of our country. Yet, there are some valuable books upon agriculture, both American and foreign, which we can recommend; among which we will name Davy's *Agricultural Chemistry*, Chaptal's *Chemistry applied to Agriculture*, Sir John Sinclair's *Code of Agriculture*, Armstrong's *Treatise on Agriculture*, Ruffin on *Calcareous Manures*, Lorrain's *Husbandry*—and, if we may be excused for what to some may seem egotism, we would particularly recommend, as agricultural works for every common school library, the *Cultivator* and *Genesee Farmer*, of our own state, and some of the agricultural periodicals of other states, in a suitable bound form. We do not hesitate to say, that these periodicals furnish more useful matter for improvement in agriculture, and in rural and household economy, than almost any books that can be procured in the American market; with this further advantage, that they do not cost so much, by one-half or two-thirds, as the matter they contain would cost in any other form. They are records of the improvements of the day in every branch of husbandry, and of rural economy, adapted to the every day wants of an agricultural population. To speak of the *Cultivator* alone—in the last twelve months, it has received and published the communications, mostly upon practical husbandry, and by practical men, of more than two hundred correspondents. Every farmer will acquire some useful hints, and improve his practice, from the better example of a neighbor. This example adds to his stock of useful knowledge. How greatly does it add to these advantages, when, instead of the improvements of one, he can profit from the improvements of two hundred good farmers.

There are several minor works upon agriculture, as Fessenden's *Practical Farmer*, Budd's complete *Practical Farmer*, Taylor's *Farmers' School-book*, &c., which are principally made up of extracts from agricultural books and periodicals. But most of the books we have named are scarce in market. The editions were limited, in consequence of the little demand for works of this kind. The agricultural books adapted to an American Common School Library, are yet to be written.

A common school library should contain something upon gardening—a branch of rural economy, that has hitherto received far less attention than its importance demands. Good gardens, among a rural population, are the highest marks of social refinement. They exert a benign influence upon our rougher passions, and the grosser appetites, and enhance the charms and enjoyments of home. We may name Bridgman's, Fessenden's and Wilson's.

We want in these libraries, also, plain treatises upon silk culture, a business of unquestionable profit, as a household employment—and a proficiency in which may be attained by a little practice, with the aid of printed directions. We name Whitmarsh, Comstock, and Roberts. The principles of mechanics are all important to a rural population. To apprehend them, and their mutual relations, says Babbage, is within the power of almost every person possessing a tolerable education. A knowledge of these principles is valuable to the farmer, and mechanic, and manufacturer, in the construction and management of the implements and machines which add to human power, and economize time. Of works of this kind, we understand two are preparing by competent gentlemen of this state, and will be published the current year.

We should also have in these libraries, some works calculated to make our sons early acquainted with the constitution and laws of the land—with their duties as citizens and freemen—and to make our daughters good housewives, and good economists. “The Citizen's Manual,” by Judge Concklin, is an invaluable work for the first of these purposes. Neither young nor old can peruse it without benefit—

without feeling a new interest in the preservation of social order, and new obligations to qualify themselves for the high political and social duties of freemen. Upon household and domestic duties and accomplishments, we have several valuable works, from American ladies, among whom are Mrs. Hale, Mrs. Sigourney, &c.

Utile dulci—“the useful, with that which is agreeable,” has long been a favorite quotation, and the sentiment is one which we respect. The *useful* should have precedence of the *agreeable*. We should teach our youth how to *earn* wealth, before we instruct them in the fashion of *spending* it—we should build the house, before we expend our means for its furniture and embellishments. Nine-tenths of those, who are to get benefit from common school libraries, are destined to obtain a livelihood by manual labor,—and our first object should be to render their labors inviting and respectable, by affording them the opportunity of rendering them intelligent and profitable. We speak with confidence, when we say, that agricultural labor would be rendered far more profitable, at least one-third, in the coming, if not in the present generation, by the facilities to improvement which might be afforded through common school libraries; and we have no doubt, that other branches of productive labor might be equally benefitted. We estimate the value of our present agricultural products at ninety millions of dollars per annum. On our assumption, endorsed by our chief magistrate, that the value of this product might be increased one-third, or thirty millions of dollars, by proper instruction and encouragement—how paltry in comparison, is the small sum asked for from the legislature, to furnish this encouragement and instruction! It is better to give our sons a *useful* education, without fortune, than to give them *fortune* without a useful education. Men wed habits, before they wed wives, and generally cling to them longer in life.

We spread our nets too broad.

The great misfortune in our country is, that when a good thing is started, there are too many who want to share in its honors and its profits; and hence what would be very useful and profitable to a limited extent, is, by being divided, and subdivided, as respects the patronage of the public, rendered useless to the projector, and of very little benefit to the public.

We will apply our remark, first, to our colleges, our highest schools of learning. A certain number of these, by concentrating the public patronage, and the bounty of government, would be able to confer the highest qualifications for usefulness, and the highest honors, upon the pupils under their charge. But when we divide among two or three, or a half a dozen, the public bounty and the patronage which is necessary to render one useful, we overdo the business, and in a measure thwart our object of high intellectual improvement. We adopt the foolish policy of the farmer, who expends his labor upon three hundred acres, when by judicious management, he might get the same produce from one hundred acres, and save the expense of two-thirds of the land and two-thirds of his labor.

Next, our academies. Every cluster of houses that is denominated a village is ambitious of having an academy, forgetting that it requires an outlay of some thousand dollars in the outset, to start one respectably, and an income, annually, in tuition fees, or from other sources, of two thousand dollars more, to maintain it usefully. The consequence is, that very few offer, for any length of time, so good advantages as a private school. Were two-thirds discontinued, or converted into industrial schools, to teach hand-work as well as head-work, the remaining third would be far better sustained, and be far more useful. The worst place to educate a boy, so far as depends on the advantages of the school, is his native village, where he is wont to lean on parental support and to remain a mere succor. Send him among strangers, and he will learn to *go alone*, and to depend, for knowledge and character, upon his personal application and good conduct. Under shelter of the parent tree, the succor will always be a succor—soft, porous and dependent; but early removed, it strikes its roots vigorously into the soil, towers aloft, and soon ranks with its parent, in hardness, beauty and usefulness.

Then our canals, rail-roads, and turnpikes, come in for a like competition for public favor, and involve a like useless expenditure. By their unreasonable multiplication, individuals, and districts, may be gratified, but the public are seldom benefitted to the extent of the outlay: but this matters little to the projectors, provided the state can be induced to lend its credit for their completion, and ultimately to assume their ownership.

We are not sure that our agricultural periodicals, useful as they are to the community, are not multiplying too fast, both for the benefit of their conductors and of the public at large. It is not their number, but their quality, that confers value; and their price

must be graduated in a measure by the extent of their circulation. Three of these periodicals are now issued from Boston; three are published in Ohio, and three in Tennessee. We are not disposed to complain; but we verily think, that was the talent which conducts, and the patronage which supports them, somewhat more concentrated, in the cases we have noted, it would be better both for the proprietors and the patrons.

In horticulture, we have now but one periodical, the Magazine of Horticulture, published at Boston by C. M. Hovey. We hope to see this liberally patronized, and well established in usefulness, ere the patronage which it deserves, and which can alone render it truly useful, is divided among half a dozen rival works.

Yet there is one business in which no evil is likely to arise from competition and rivalry. The more that embark in this, and the more successful they become in outdoing their neighbors, the better for them and the better for the country. We mean the business of practical agriculture—a business calculated, above all other employments, to make men "healthy, wealthy and wise," as poor Richard says. Here is ample scope for competition, for rivalry and for enterprise, without interfering with the prosperity of our neighbors, or compromising our character, or what freemen should hold most dear, our independence. A man who can, under the favor of heaven, supply his own wants by his own industry, should never consent to become the vernal tool of others.

Forcing Rhubarb.

In our December number, we stated Mr. Knight's mode of forcing rhubarb; and at the same time we directed our gardener to fill a half barrel with roots and earth, and place it in the cellar. About the first of February the tub was taken from the cellar and placed in the back part of a basement kitchen, and covered over by another tub to exclude the light. On the first of March the tub was filled with fine blanched stocks of rhubarb, from twelve to eighteen inches in length, upon the top of which the leaf was just developing. The rhubarb not only makes a superior pie, but is said, by medical men, to make a very healthful one.

North Anna Agricultural Association.

We invite the attention of the reader to the preamble and regulations of this association, under correspondence. It is a mutual benefit association, calculated to add to the knowledge, and wealth, and good feelings of all its members, without impairing the good qualities or the wealth of any one. The monthly meetings will resemble the literary *conversations* of Paris, the meetings of scientific men in Britain, and the weekly agricultural *conversaciones* of Prof. Colman, which are now being held in the capital of New-England—where men come together not merely to benefit themselves, but to benefit their country, with the fruits of their knowledge and experience.

The Short-Horned fever in Kentucky

We are admonished by our worthy cotemporary of the Franklin (Ky.) Farmer, that we are no doctor, and that this fever has not yet reached its crisis in Kentucky. We admit that we have been better advised since we hazarded our opinion; though we are not yet exactly prepared to retract it wholly. Kentucky is undoubtedly well adapted for grazing, both on account of the richness of its pastures and its interior location. The Short-Horns find there a home—the climate is much more congenial to them than that of latitude 43—and they grow larger and do better there than they do here—and yet gold may be bought too dear. At all events, we hope, if our life is spared, to accept the kind invitation of friend Stephenson, and to be able to judge more understandingly in the matter. In the meantime we commend, without stint, the spirit of improvement which animates the editor of the Farmer and his respectable correspondents.

What is Education?

"It is," say the schoolmen, "the training of the whole man, the development and proper exercise of all his powers—the cultivation of his physical, intellectual, moral and religious nature"—and we would add—that although every thing necessary may be here implied, all is not clearly expressed. Education is not complete till the pupil is trained to some useful employment, by which he can earn an honest livelihood—and this training, too, if to an agricultural or mechanical employment, will give the best development to his physical and moral powers, and afford the strongest guarantee for their active exercise. Nothing tends more to promote moral culture, than a consciousness that we can, and a determination that we will, provide for ourselves, by our own honest industry. Without some fixed employment, while the body and mind are ductile, and capable of receiving lasting impressions of usefulness, both the physical and moral powers are apt to relapse, however well

trained, the first for want of due exercise, and the latter for want of bread. Education should not only develop the bodily and mental powers, but should teach their proper and useful employment.

New Species of Silk Worms.

In the province of Assam, in Asia, which has recently fallen under the jurisdiction of British power, among a variety of hitherto unknown productions, there has been found a dozen species of silk-worms, which produce materials for valuable fabrics. One of these is the muga worm, which feeds on the foliage of a variety of trees, and is never reared in the house. The female deposits its eggs on wisps of grass, which are collected, and when wanted to be hatched, the wisps are exposed to the sun about ten days, when the worms begin to show themselves. They are then hung up in a tree which has been selected for the purpose, and the worms find their way to the foliage. If a tree is stripped of its leaves, the worms are removed to another, by means of bamboo dishes, fastened to long poles. They are prevented coming to the ground by plantain leaves being tied round the body of the tree, over which they cannot crawl. They feed about thirty days, and when ready to wind, descend to the plantain leaves, where they are gathered, placed among dry leaves, where they form cocoons. The cocoons are about two inches long, and of proportionable thickness. They are not reeled in one continuous thread, like common silk, but spun, like cotton or worsted, and of course the product is a thicker and harsher thread. The silk is wove into cloth, for scarfs, turbans, sashes, &c. In that warm climate, the insect produces five crops in a year.

The arinda worm is reared entirely under cover. It has been known to have perfected twelve broods in a year. The silk, though coarse, is warm and durable, and is worn by the common classes. More than 80,000 lbs. of arinda, and 50,000 lbs. of the muga silk, are annually produced in Assam. The cloth is said to be of incredible durability; the life of one person being seldom sufficient to wear out a garment made of it. One other sort of these silk worms produces a beautiful thread of great lustre; and a fourth sort is of very large size, the moths measuring ten inches from wing to wing.

The Grain-Worm.

It will be seen, by the letter from Mr. Gaylord, under correspondence, that we were right in our conjectures, that the grain-worm of the east, and the grain-worm of the west, are not identical, that they belong to different genus of insects, and are altogether different in their appearance and habits. We will however indulge in another conjecture, viz. that the grain worm of the east (*Cecydomia tritici*) is partially in the west, as far at least as Ontario, and that it has there committed ravages upon the wheat crop, without having attracted notice. The complaint there has been general, that the product has fallen short of the grower's expectation, to a greater extent than could be accounted for by the apparent depredations of the *Phalara* of Mr. Gaylord. The true grain-worm, of which we have so often spoken, is seldom if ever found in the wheat head at harvesting, or in the barn. It falls to the ground before harvest. If when the grain is yet in milk, an upright head be selected, and the thumb and finger passed along it, it will be perceived that there is a partial, and sometimes a total deficiency of kernels. On opening the sheath of these abortions, or empty grain cells, the worm will be found in the envelope, sometimes to the number of a dozen. They either destroy the entire germ, or, if the kernel has partially formed when they begin their work, it has a very shrivelled and worthless appearance, having been evidently deprived of the nourishment destined to bring it to perfection.

Whitmarsh's Silk Manual.

"Eight years experience and observation in the culture of the mulberry tree, and in the care of the silk-worm." &c. is the title of a duodecimo of 156 pages, just published by S. WHITMARSH, of Northampton. There is probably no individual in the United States, who has had a better opportunity of noticing all the varieties of the mulberry, and the various processes in the silk business, in France and Italy as well as in America, than the writer of this little work. This, taken in connexion with his eight years experience in the business, must have qualified Mr. W. for the task he professes to have undertaken, that of furnishing to the farming interest plain and simple instructions, adapted to our country, for the culture of the mulberry and the management of the silk worm. Mr. Whitmarsh concurs with us in the opinion, that this business belongs particularly to the farmer and planter; and that in their hands it will ultimately become one of great magnitude and wealth to the Union. And we concur with him in recommending farmers to plant the mulberry, in the full assurance that they will be wanted—if not by the owner, by some neighbor who will find an interest in buying the foliage.

It is not our intention to review this work. We propose merely to state some prominent facts, which it asserts, and to refer to the book for the reasons, and for general directions.

No particular species of the mulberry is preferred. Too much consequence has been attached to the size of the leaf; and he seems inclined to prefer the white fruited varieties. Mr. W. is in error in classing the black mulberry among our indigenous varieties. The black (*Nigra* of botanists) is a native of Europe, and more sensitive to the cold of our winters than the *multicaulis*. He recommends poor dry soils, where the leaves will be richer, and the wood mature better, than on rich or wet grounds. The leaves should be stripped from trees but once a year. Several crops of worms may be fed in a season, but not from the same trees. This is undoubtedly correct. The leaves are improved by the age of the tree. No kind of mulberry under cultivation can be produced from seed; that is, no seed can be depended on to produce trees like its parent. Of this fact we should require more proof before we should be disposed to give it our unqualified approbation; but if true, it will soon explode the vendors of seed of the *genuine* Canton, *multicaulis*, &c. at four and five dollars the paper. We are not inclined to think it correct in regard to the white or *Brussa*, the seedlings of which we think bear a uniform resemblance, in their wood and foliage, to the parents. Where both parents are of the same species, the progeny, in the vegetable as well as the animal, are not likely to take a new form. We commend the work to the silk culturist.

"None so Blind as those who won't See."

That man who won't profit in his farming operations, by the palpably better practice of his neighbor, is branded, by common consent, an idler or a dunce; and his case may be considered one of hopeless obstinacy. He virtually scouts at the means which Providence has placed within his reach for the great purpose of his being—the improving his condition and benefitting others. He is like the noxious plant, which encumbers the earth, to benefit no one—except to exhibit, in strong colours, the contrast which exists between the useless and the useful—between industry and indolence—between the good and the bad, in human affairs. He who aids, in any honest way, to multiply the comforts of life, to enlarge the sphere of useful knowledge, and to elevate the character of society—has at least the consolation—and it can only be acquired from practice—that he has used those faculties, which Providence has given him above the brute, for the purposes for which they were intended—the good of mankind. While he who will not improve and employ the high faculties of his nature to advance human happiness, may be likened to the turtle, which delights in mud and water, and cares only for itself, or to the carnivorous beast, which feeds and fattens upon the life-blood of the brute inhabitants of the forest.

We have been led into this train of rather serious reflections by the perusal of a letter before us, from Mr. W. Bache, which, although stating nothing but what is common in every district, gives the objections of his neighbors against endeavoring to improve in their business through the example of those who excel them in practice.

"If you will publish a work on law, physic or divinity," says our correspondent, "I will undertake to get farmers to subscribe to it, because those are subjects well calculated to be treated on in books, and farmers would think they might learn from them something which they did not know before; but to instruct them in the art of farming, who never learnt any thing else from their infancy, nor their fathers before them, how ridiculous! There are others, however, that offer reasons rather more plausible. These improvements, say they, are very fine, to be sure; and if I lived in an old settled country, I should be very fond of taking such papers; but what good will they do us? They are not calculated for a new settled country. We have to farm as we can. We already know a great deal more than we can practice. Their improved ploughs and cultivators would make but poor work among our stumps. It wouldn't be very easy draining land through roots. Why tantalize us with the wonderful effects of bone dust and lime? Our ground is strewed over with the one, without any possibility of getting them ground, and of the other there is none within fifty miles, and who can afford to put lime on land, every bushel of which will cost him fifty cents. It is true, I see some things in that Cultivator you lent me, that if I had the money I would have, or do; but we haven't the capital necessary to do these things, and must wait till we have. There are others, however who like to know what is going on in the world, in their own profession, and feel encouraged to hope, by what others are actively doing, that some time or other they may be able to do the same, or better, themselves. Of such characters, we have a few even in Wellsborough, and I have the pleasure of sending you the names of the following nine, as subscribers," &c.

JAMES WICKHAM, of South Westerlo, Albany county, is desirous to hear from his brothers and sisters, Ebenezer Wickham, Benjamin Wickham and Abigail Wickham.

No one tastes so good Fruits as he who raises them.

This is particularly true as regards the small fruits of summer. The black mulberry, it is stated in the *Encyclopædia Americana*, is "in perfection only a few moments, and that at the time when it can be detached from the tree by a slight shaking of the branches." "All the fruits," says Dr. Alcott, "but more particularly the berries, are more or less subject to the same law." The perfection of the strawberry and raspberry lasts but an hour or two; and even the pea, bean and Indian corn, lose much of their freshness and flavor by being plucked the day before they are used. Those who raise fruits, therefore, may pluck and eat them when they are at perfect maturity, when they are most grateful to the palate, and most conducive to health. Those who buy them, on the contrary, must buy those that are prematurely gathered, or which have passed their best state, and are in the incipient process of decay. In general both of these objections lie against summer fruits which are sold in the market—they are gathered before they are ripe, and they are in the progress of decay. How important is it, therefore, that the lovers of good fruit should take care to have it in perfection, by selecting and cultivating the choice varieties, when it can be done at trifling expense.

"The juices of all green fruits," says Dr. Alcott, "are very different from those of ripe ones. Their acids are less wholesome than after they are changed by the action of the sun in ripening; nor does the addition of saccharine substances in preparing them, at all change their real nature. They are still there; they are only concealed. The oxalic acid is still oxalic acid, cook green fruits as you will. No culinary process, I repeat it, can be substituted for, or produce the effect of solar action. The Creator, in many instances, by means of the sun, performs the most perfect culinary processes; and nature is often the best kitchen and cook."

The use of ripe fruits is admirably adapted to allay the feverish irritations of the stomach and bowels at the seasons when they severally come to maturity; but unripe fruits, or those in the incipient stages of decay, are calculated to increase these excitements, and to generate disease. Fruits should always become ripe in their own natural way, and eaten when they are in their highest perfection.

Bone Manure.

Since bone manure has become accessible to a considerable portion of the farming community, by the erection of bone mills at Albany, Waterford, New-York, Boston, and other places—and is likely to come into more extensive use, as its value is better appreciated—we propose to give some account of its fertilizing properties, of the soils and crops which it is calculated most to benefit, of its mode of application, the quantity applied to the acre, &c. In doing this, we shall draw our facts principally from the report of the committee of the Doncaster Agricultural Association, a society which has rendered eminent service to the agricultural community, in different departments of husbandry, by its investigations and reports.

With a view of collecting facts to form the basis of their report, the committee addressed seventeen queries to the most intelligent farmers of the country, embracing men of science, and asking answers to the interrogatories in regard to this manure. Forty-nine answers were returned. From these the committee made out their report; and it is the substance of this report we are about to give.

Bone manure had been used, by those to whom the queries were addressed, for an average period of twenty years. "Our correspondents," says the report, "with only two exceptions, all concur in stating it to be a highly valuable manure, and on light dry soils superior to farm-yard dung and all other manures." In copying the language of one of them in relation to dry sandy soils, we express the opinions repeated in the far greater number. "I consider bone tillage one of the most useful manures which have ever been discovered for the farmer's benefit. The lightness of carriage, its suitability for the drill, and its general fertilizing properties, render it peculiarly valuable in those parts where distance from towns renders it impossible to procure manure of a heavier and more bulky description. The use of the bones diminishes labor at a season of the year too when time is of the first importance; for one wagon load of a hundred and twenty bushels of small drill bones, is equal to forty or fifty cart loads of field manure."

"Upon very thin sand land," say the committee, "its value is not to be estimated; it is not only found to benefit the particular crop to which it is applied, but extends through the whole course of crops, and even in the succeeding course, its effects are visible in the improved quality of the land, and the efficiency of a smaller quantity than would have first ensured a crop." Numerous facts are here cited in proof of this declaration of the committee. Where, for instance, in a district of many thousand acres, turnips would produce only tops, and those very small,

the use of bones alone has increased the turnip crop in some cases ten, and in few cases less than five fold; and all the succeeding crops of grain and grass were amazingly increased.

On light loams the bones were found preferable to yard dung—provided they are dry—for the bones do not seem to benefit at all upon wet soils.

On heavy loams and clays the experiments were unfavorable; and the committee infer, that clay soils are in general too moist to receive any considerable benefit from bone manure.

Upon peat soils, thoroughly drained, the advantages of bone manure were very striking. Fifteen to twenty bushels per acre were found to surpass, very far, the ordinary dressing of farm yard dung, and even lime and pigeons' dung.

Upon gravels, the opinions of its efficacy are contradictory. Upon wet ones it will not succeed.

As to its durability. Three acres were boned with one hundred and fifty bushels per acre by mistake. Fourteen years after, the land had not forgotten it, but was nearly half as good again as the other part, farmed precisely in the same way, with the exception of the one dressing of bones.

To the question, do you continue to use bones? not one in the forty-nine returned an answer in the negative. Their use was rapidly increasing.

Upon grass, either for meadow or pasture, their effect was favorable, the herbage being improved in quality and quantity. Six hundred bushels were spread upon twenty-four acres of a dairy farm, of dry sandy gravel, which had been laid down ten years. The effect was to produce double the butter from the cows depastured upon it, to those which were fed upon like pasture not boned.

The general application of bone dust in England is to the turnip crop, one of the most important in British husbandry; and the opinions as to the best mode of applying it, whether in drills or broadcast, are various, though the former opinion rather prevails.

As to the size of the bones, the opinion is in favor of half inch bones. Mr. Burk states—"If I were to till for early profit, I would use bones powdered as small as saw-dust: If I wished to keep my land in good heart, I would use principally half inch bones, and in breaking these I should prefer some considerably larger." "By using bones of a large size, with dust in them," says another correspondent, "I think I have sufficient of the small particles to set the crop forward, and sufficient of the large particles left to maintain the land in good condition for the last crop" in the course.

In regard to the quantity to be applied to an acre, although the committee admit that the average of the returns is thirty-nine bushels, they nevertheless recommend, as a sufficient dressing, twenty-five bushels of the small size, and forty bushels of the half inch, giving to the poorer lands a greater, and to the richer ones a smaller quantity.

Some of the correspondents prefer raw or fresh bones, and some those which have been boiled, and the glue and oil extracted.

Without going into further detail, we shall close our notice of the report, by copying a summary of the deductions which the committee draw from the facts they collected. They are as follows:—

"On dry sands, limestone, chalk, light loams, and peat, bones are very valuable manure.

They may be laid on grass with good effect.

On arable lands, they may be laid on fallow for turnips, or used for any of the subsequent crops.

That the best method of using them where broadcast, is previously to mix them up with earth, dung or other manures, and let them lie to ferment.

That if used alone, they may be either drilled with the seed or sown broadcast.

That bones which have undergone the process of fermentation, are decidedly superior to those which have not done so.

That the quantity should be about twenty-five bushels of dust, or forty bushels of large, increasing the quantity if the land be impoverished.

That upon clays and heavy loams, it does not yet appear that bones will answer.

From the foregoing data, the farmer will be able to judge how far bone manure is adapted to his soil; and from estimating its cost and transportation, he can calculate the economy of purchasing and applying it. In the report before us it is computed to be cheaper at 2s. (44 cents) per bushel for manuring, than yard dung, at 10s. (\$2.22) the load, the price the latter is stated at in Britain. The price at the mills in this state is \$14 to \$16 per ton, which would bring it to more than 40 cents a bushel. So that to manure an acre with twenty-five bushels would cost about \$10.75, besides transportation and spreading. This dressing would be equal to that afforded by twenty common loads of manure, which ought to be estimated to be worth 50 cents a load, besides the expense of hauling it out and spreading it. It would therefore seem to be cheaper than stable manure; and at all events it would afford a valuable auxiliary where manure is scarce, or has to be brought from a distance.

Bone dust is for sale at the glue factory of T. Coulson & Son, on the Schenectady turnpike, Albany, and by R. Burt, Waterford.

"The Memorial,"

"Devoted to the reduction of costs attending legal proceedings in the collection of debts," is the title of a respectable sheet, which we have received from Seneca Falls, A. Bascom, editor. Its object is to make known the defects of our laws, and the impositions which are practised under them, in regard to the legal collection of debts.

We allow to the legal profession all the innate virtues and good feelings which are common to the other classes of society. But we have made them the peculiar subjects of temptation; and have envied them, by our own acts, with motives and with power, to become a privileged class, like the aristocracy of Europe. We make them our law-makers, our law-expositors, and virtually judges of the compensation which they shall receive. We have made the profession of law the avenue to all the offices of honor and emolument, by the long practice of selecting from the profession most of our executive and judicial officers, and a great portion of our representatives in the national and state legislatures. We have assisted to qualify them for these stations, by appropriating two millions of dollars of the public money to colleges and academies, in aid of their education. But we have not expended any portion of the public money to qualify the farmer and mechanic for like duties.—Hence they are a privileged class; and, like all other privileged classes, exercise the powers which are conferred upon them. Is it a wonder, therefore, that the profession should be crowded with candidates, of all sorts, for public favor? Is it unnatural that, encouraged by public bounty and public patronage, and possessing the power to help themselves to what they wish, that all of the profession should not possess sufficient virtue and integrity to resist the desire to grow rich upon the labors of the middling class? We only wonder that there are so many honest lawyers as we find.

From a cursory examination of the *Memorial*, we think its tendency is useful, its motives patriotic, and its means mild, liberal and just; and we recommend it to public patronage.

Among other matters, it is shown pretty satisfactorily, in the *Memorial*, that where the costs on collecting a note are now fifty dollars, besides sheriff's fees, they might be reduced, without prejudice to the plaintiff, to fifty cents, besides sheriff's fees, and yet afford a fair equivalent for services rendered. The expense and delays of chancery proceedings form a far greater cause of complaint than the courts of justice; so much so, that a man who has \$500 due him on a mortgage, had better sacrifice the debt, than attempt to realize it by equity proceedings—if a lawyer takes an interest in keeping him out of it.

We have had some experience in these matters. We became a disinterested endorser for a friend, to the amount of seven or eight thousand dollars, for which we received a mortgage upon real property as security. Our friend failed, and left us to take up the paper. We commenced a foreclosure of the mortgage in chancery. Although we believe our counsel has done his duty, the cause has been pending five or six years, and is likely to out-live us—and for no other reason than we can see, than to accumulate costs—and to secure to a lawyer the possession of the property upon a nominal rent.

Durham Cattle.

Several individuals of this esteemed breed have recently been bought up in this neighborhood, by a gentleman from Kentucky. The purchaser remarked to us, that the climate of Kentucky appears to be much more favorable to this breed than the climate of our latitude.

Agricultural Items.

The Penobscot Agricultural Society awarded premiums in October, on the following products of an acre, viz:—42 bushels of wheat, 87½ bushels ears of corn, 84 bushels of oats, weighing 34 lbs. per bushel, carrots 600 bushels, &c.

Fellenbergh, pointing to three hundred pupils belonging to his school, said to Prof. Griscom, when visiting the school at Hoffwyl—"Do you see those young men? They are all teachers. If I do but pursue the right course in education, I shall revolutionize Switzerland." The worthy patriot alluded to the agriculture, the schools, and the intellectual and moral character of Switzerland. And who would not like to see such a revolution here? Such a revolution we want, and such we might have, if we would adopt Fellenbergh's plan.

The difference between a working man and a teaching man.—The laborer asks the farmer, "Do you want to hire a hand, Sir?" "Yes, if he suits me. What can you do? Can you mow? Can you cradle? Can you drive a team? Can you thrash?" The teacher asks him, "Does your district want to hire a teacher?" "Yes, how much a month do you ask?" In the first case, animal power and tact constitute the criterion of merit; in

the second, the low price at which the applicant holds his mental qualifications. If the hiring does his work, no matter whether the children learn any thing useful or not.

Sweet Potatoes, have been kept till May, packed in a box of dry earth in autumn, placed in a position free from frost, and exposed to the influence of smoke.

Efficacy of Bone Manure.—Horace Callimore, states, in the *Plymouth Rock*, that he expended twelve bushels of bone manure, when brought into an incipient state of fermentation, upon his mangold wurzel and ruta bage crop, scattering it in every other drill—a handful in three feet; and that on gathering the crop, he found that he had four bushels of mangold wurzel, and two bushels of ruta bage—(both being alternated in the same row) in each row where the bone manure was applied, and but one bushel of each, in the rows where it was not applied, although the whole was manured with a compost—thus shewing an increase of two-thirds where the bone dust was applied.

Elastic Forks.—We accede to the proposition of O. Everett, of Sherburne, Mass.

Davis' genuine Ploughs—are manufactured and sold by Davis & King, Georgetown, D. C. dealers in produce, garden-seeds, &c. and agents for the Cultivator.

Morus Multicaulis trees and cuttings, sold by Joseph Bloodgood, Cultivator agent, Flushing, L. I., who sells also the China tree corn.

Italian Wheat.—Fifty bushels of pure seed have been imported, and are for sale, by J. Hathaway, P. M. Rome, Oneida county.

Notices of Correspondence.

Correction.—We quoted Mr. Whitmarsh, in one of our late numbers, as saying, that the "Alpine mulberry was universally raised in France and Italy." We are advised by Mr. Whitmarsh, that he was misunderstood by the gentleman who reported his remarks—that he said no such thing. His expression was, that "the better varieties of the white mulberry were grafted and budded universally in France and Italy, and that such a system would not answer for this country."

Our back volumes, in relation to which we are enquired of by S. Armstrong, of Bethlehem, Ia. may be had bound of our agents at New-York, Philadelphia, Baltimore, &c. see agents. Mr. A. will find answers to his inquiries in back vols. Timothy is best sown in September with winter grain, and we think, though we do not know, that blue grass is best sown at the same season.

Lice upon Cattle.—A. Higgins, of Smokey Hollow, asks for a prescription for destroying lice upon cattle. Boil the stems or leaves of tobacco in water, and apply the liquid, when cold, along the back, shoulders and neck of the animal, once, twice or thrice. Or, what is said to be equally efficacious, give a little flour of sulphur, once or twice a week, with salt, which the animal will eat kindly.

Berkshire Pigs.—We have several inquiries in relation to Berkshire pigs. We refer, for answers, to the advertisements accompanying our Feb. No.

Boynston's Straw Cutter, we have neither tried nor seen. We refer J. A. D. to our advertising sheet for February.

Rohan Potatoes.—We are obliged to repeat, that we have had none of these on hand since October, to part with. We dare hardly name the current price, as it is constantly advancing, and is now \$6 the bushel.—See advertisements in our February sheet.

Farming in Middle Tennessee.—John Brown writes from Columbia, Ten. as follows: "In Middle Tennessee our climate is very fine, our soil exceedingly productive, but our husbandry is in a most lamentable condition. From the intrinsic merit of the Cultivator, and the practical information offered to its readers, our agricultural labors must be greatly improved. Middle Tennessee is well adapted to the production of grain, roots and grass, of almost every variety. Heretofore we have been principally engaged in the culture of cotton, a misapplication of labor and capital, owing to our climate being too cold, and our soil too rich, for the profitable cultivation of that article. But the error is rapidly curing itself. I have the Cultivator from the beginning, and ten times its cost would not take it from me."

TRANSPLANTING EVERGREENS.

Stephen Earle, of Leicester, Mass. asks us the following questions.

1. "Which is the best time, spring or fall, to set out spruce and pine trees?"
2. "Is it a good practice to mix barn-yard manure with the dirt that is put about the roots?"
3. "Is it a good plan to water the trees occasionally if the season is dry?"

Our answers are, that the best time to transplant the spruce and pine, though they may be transplanted at any time, is the last of May or first of June, after the plants have begun to grow, or during any of the periods of active growth, if due precautions are taken to counteract evaporation, or to prevent the exhaustion of moisture in the soil. Barn-yard dung should not be mixed with dirt about the roots—rich surface mould is best. Water may be given to keep the ground moist, but not too wet. A bucket or more of water may be thrown into the hole in the process of transplanting—and the surface, after the tree is planted, should be covered with coarse litter, to prevent evaporation. Mr. Earle will find our reasons for this practice, and an account of our success in it, in the back volumes of the Cultivator.

Native Mulberry.—A Fishkill correspondent inquires if the native black and red mulberry can be propagated by layers and cuttings? We have no native black. Without having had practical knowledge, we may venture to say that the native red can be propagated by layers, and we think by cuttings. Quince cuttings may be made at any time after the fall of the leaf and before the buds swell much in the spring. We think the best mode is to cut in the fall, and bury the shoots till spring.

One of our correspondents writes as follows—"Some of your correspondents seem to think, that there are none benefitted by the Cultivator but those who read it. But I am satisfied there are many who have never seen it have profited by the information which it contains, through the influence and example of those who do read it. And as this knowledge comes to them in a manner that does not interfere with their prejudices, I have no doubt it is preparing the way for them hereafter, to be still more benefitted, by inducing many of them to turn their attention to books and papers that treat of agriculture."

Botsford's Thrashing Machine, is inquired for by several correspondents. Our readers are in possession of all the information we have in relation to it. We have seen a model, but have not seen the machine; nor can we give directions further than we have published.—Mr. Joseph P. Plummer, of Richmond, Ia. thinks, judging from the price probably, that they would just suit his country. (J) Mr. P. had better grow beets upon his hog pasture, if it is moist, or inclined to clay.

Preparing Seed Corn.—Edmund Wells, of Harmony, prepares his seed corn as follows: for half a bushel of seed, he dissolves nitre, or salt petre, in water, till it will bear an egg; makes the water about blood warm, and steeps his seed in it twelve hours. He then takes it from the tub, and pours upon it a mixture of 3 gills of tar, one gill of oil, half a pound of powder, and boiling water enough to make it of a proper consistence for glazing the corn, rolls the seed in plaster, and plants, taking care to keep the grain moist. "It comes up rank," says Mr. P., "is larger at one week old than dry planted at two, and I am confident I have not lost a single hill the two past seasons. The smell is so disagreeable when prepared as above, that neither crows, birds, squirrels, field mice nor cut worms are disposed to meddle with it." Mr. P. asks if nitre and sulphur will answer the same purpose, and if yes, how much of each? Sulphur would no doubt prove a good antidote, and there would be no danger of using it to excess—yet we think tar and powder equally beneficial.

Lice upon Ruta Baga and Cabbage.—In reply to the inquiry of Mr. C. Holbrook, of Woonsocket, we are sorry to state, that we know of no certain remedy against plant lice. Good manuring and good culture is the best remedy; though we think tobacco water or sulphur would expel them from the upper side of the leaves. If sulphur is used in a liquid, it may be first mixed with milk, and then blended with water.

A gentleman in Dorchester, Mass. asks if "there is any difference in the manner of growth, the size and quality of the leaf, between the Canton and multicaulis mulberry, and whether the former will stand our winters better than the latter?" The multicaulis has the larger leaf, and we think the Canton is the most hardy. See our article on the mulberry.

The Silk-Reel, a drawing of which we received from R. Mansfield, is the Piedmont reel recommended by the National Silk Convention. We will procure a cut, and insert and notice it in our next No.

Is there a cast iron Plough, of good construction, in use, with a steel point? is the question put to us by C. Ingalls, of Lockport. Norton's self-sharpening plough, sold by Wm. Masecraft, No. 23 Washington-street, Albany, is a cast iron plough of this kind. The point and share are separate, and are so formed as to be turned upside down, at pleasure, and made thus to sharpen themselves. This plough is said to have received premiums at New-York, Philadelphia, Baltimore and Washington, and its merits are highly spoken of by the patentee. Never having used it, we speak of it according to report, and not from personal knowledge.

On the subject of advice.—A correspondent in Allegany last year described to us the quality of the soil in his neighborhood, and asked us how it should be managed, and now seems to take it unkind that we did not answer his question. A physician lays down general rules for the prevention and cure of diseases; but should he venture to prescribe in particular cases, without seeing his patient, or knowing the exact type of his disease, he would be apt to be branded as a quack. Now we have endeavored to make known the general principles of husbandry, to enable the farmer to improve his practice, leaving him to apply these principles to his particular case. Soils differ like the human constitution, and it would be as futile for us to prescribe, in many cases, as it would be for a physician to prescribe for an unseen and unknown patient. John Randolph once remarked, that a man at forty is either a physician or a fool: meaning thereby to imply, that in forty years experience a man of good sense will acquire a knowledge of his constitution, and of the best means of preserving his health. This will in some sort apply to the farmer. With a knowledge of general principles, the cultivator of a farm should know how best to apply them to his particular case.—This is his particular province and duty. There is no panacea in agriculture any more than there is in medicine. If land is poor, make it rich; if it is wet, make it dry; if it is badly managed, work it better. Ascertain the cause of infertility, or deterioration, and the

remedy is palpable, remove or abate the cause. We have another apology for seeming neglect to answer all the special queries that are sent to us. They are very numerous, and the task of answering them, in a satisfactory manner, would be herculean. Under this view of the matter, we hope that none of our correspondents will construe our silence into intentional neglect—and that they will accord to us an honest and constant endeavor, to do the most good to the greatest number of our patrons.

Pitts' Thrasher.—George Love's request will be submitted to Mr. Pitts as soon as he reaches Albany, which he is expected to do in a few days.

A Friend to Improvement, can be gratified if he will permit us to use his proper name. Communications like his might be sent us from every county in the Union. We could not judge of their correctness; and without the sanction of a responsible name, both ourselves and our readers might be imposed upon with impunity. The precedent, it will be seen, would be a bad one.

Preparation of Clover Seed.—We have received two communications from Joseph Warbasse, of Newtown, Sussex county, N. J., on the preparation of clover seed for sowing, by which the writer calculates he makes a saving of one half the seed required. This is a matter of no little consideration at the present price of seed. Mr. Warbasse's process seems to be predicated on the assumed fact, that ordinarily more than one-half of the seed sown does not germinate, either from the want of moisture to swell it, or of gypsum, the presence of which he considers essential to stimulate the germinating principle. Mr. Warbasse is probably right in stating, that one-half the clover seed sown does not come up; and he is strengthened in his supposition that much of it remains dormant in the soil by the fact he states, and which is of common notoriety, that plaster sown upon light lands, will bring in clover, where no seed is sown at the time. Mr. Warbasse's remedy for the evil is, to saturate and swell the seed thoroughly in soft water, to which a small quantity of salt is added, and after it has become well saturated, to coat it with gypsum, &c. the effect of which seems to be, to prevent the escape of moisture which the seed has imbibed, and thus insure its germination and growth. A further advantage may be, that the salts impart fertility to the soil which comes in immediate contact with the seeds, and causes a more vigorous growth. Such seems to be the philosophy upon which Mr. W.'s practice is founded. We give the process of preparing the seed in his own words:

"The seed is to be made thoroughly wet with a strong pickle from your pork cask, so as to wet the floor; then let it remain in a heap one day, it being thus made larger in each grain. In cold weather warm your pickle and give it an additional salting next day. Spread it about one or more inches thick on a dry floor, and in a few days a crust of salt will be formed on each grain, again enlarging it; when you wish to sow it, the weather being calm, moisten it with more salt pickle; spread it over a floor, and put on it about three quarts or more of plaster to a half bushel seed; mix it well; the plaster will adhere to the crust of salt on each grain, still further enlarging it; and thus you have in bulk nearly one bushel out of half a bushel of seed. Keep it moist in a cellar until you sow it, and take no more seed in your fingers but rather less than in the old way, making longer steps while sowing, and go over the eight-pace land three times. I have thus sowed twelve acres or more with one bushel of seed, and all in good condition.

For want of plaster, strong dry ashes may be used, not over moist; but as I have not fully tested the advantages of this method, I shall leave it as it is.

N. B. Those who do not fully understand the preparing of clover seed agreeably to the above directions, or are fearful of using the salt pickle, after having paid a high price for the seed, can prepare a water for steeping equally stimulating by boiling a few gallons of snow or rain water, and putting into it a fire-shovel full of plaster and a fire-shovel full of strong ashes or hot embers, with two hands full of salt. This water when cool, drain off and steep your seed in it two days, and before you sow it, wet it with milk, of any sort, this too will become an agent to encrust the seed with plaster, and so will any water, made slimy or oily; rye-meal would be better than milk to render it adhesive; starch and flaxseed put in while warm, might also be used to advantage. By following these directions you can sow twice as many acres and have better crops of clover without sowing any plaster on it the same summer."

Loss of the Cud.—D. L. Dodge, of Plainfield, N. J., wishes us to give a more full and connected statement of the nature, symptoms, and remedies for diseases in cattle, particularly for neat cattle and horses. This request shall be duly attended to. He at the same time apprehends, he shall lose a very valuable bull, in consequence of the loss of his cud. On this subject Lawrence directs:

"Let the animal fast some hours, then give a warm bran or pollard mash, with good hay, and warm water with salt. This treatment alone, may succeed with patience, even should the maw be obstructed by acorns or crabs. An aloe tincture, made with brandy and ginger, or capsicum, might be of use in this case. After conquering the obstruction, bitter infusions, made of chamomile, cardus, horehound, oak-bark, &c. in beer, may be required as restoratives, although perhaps good dry nourishing food, will have an equal good effect."

Acknowledgments.—The Rock apple and a sample of a handsome seedling apple, from Mr. Verplanck, of Ballston. The Rock apple is the Carthouse, or Gilpin, of Coxe, excellent as a table apple late in the spring. Mr. V. says he has kept them till September. The tree is hardy, of handsome growth, and a great bearer. Grafts of a Siberian apple, a cross of the old Siberian, which keeps till midwinter, beautiful, large and fine from J. A. Thompson, of Catskill, an amateur pomologist. A peck of Timothy seed from Wm. Bristol, of Utica, perfectly pure, without the admixture of a single foreign seed.—The seed was raised by Asher Wilmot, of Paris, Oneida county, who raised some thirty bushels of like quality. Mr. Wilmot, in harvesting the crop, carefully takes off the heads of the grass, avoiding all foul seeds, from a strip, then cuts down the stubble, and proceeds to gather the heads from a second strip, and so on. Mr. W. deserves much credit for his care, and we hope to see his example imitated. A package of *Cedo Nulli* peas, a new and valuable variety, from G. C. Thorburn, of New-York.

CORRESPONDENCE.

Diseases of Sheep and Remedies.

Weybridge, Vt. March, 1839.

J. BUEL.—Sir—In the following communication, I have endeavored to give some directions relating to the management of sheep, and the most common diseases, which are within my own experience, which, if published, I hope may be useful to wool-growers, who are unacquainted with their treatment and nature.

A healthy sheep will soon recover from those simple complaints, such as wounds, bruises and fractures, by a very little attention, if applied at the commencement; but by neglect a wound may soon degenerate into an ulcer. A broken bone sometimes may knit, the animal will suffer great pain, and probably have a crooked limb after.

Fresh wounds will suddenly heal, if closed by a stitch or common sticking plaster; small wounds at times need nothing, or a little tar is sufficient.

A fracture should be bound up neatly, with one or two splints, in flannel or other cloth, smeared with tar. Care should be taken that the splints do not press the tender part.

Sheep are infested with several kinds of vermin, the common tick, maggot, &c; young and lean sheep are most exposed to these complaints.

Those flocks are not troubled with ticks, where the lambs are regularly immersed in a decoction of tobacco, say from four to five pounds to the hundred, about ten days after the sheep are shorn. Several pinches of Scotch snuff deposited in the wool, in and about the neck and sides, is a good remedy in cold weather.

Maggots originate from fly-blows upon the wounds; these are avoided by dressing with tar, and destroyed by an application of honey, when spirits of turpentine would prove ineffectual.

To cure colds, and running at the nose, a dose of tar, is sufficient, in the months of June and July; if applied at and above the nose, it will prevent the grub in the head and invigorate the health.

Nothing can be more safe or better to soften the hide, prevent or cure the scab, than a strong decoction of tobacco, applied to the parts infected. If the scab has become in a manner confirmed, it should be removed by a curry comb or otherwise; then after immersing them in a vat of liquor, lay them on an inclined table, which will conduct all the liquor that may be pressed from the wool into the vat again.

Sheep are frequently exposed to cold rains, or burning sun, immediately after shearing, which will materially injure and sometimes destroy a number in a flock. Take train oil, or other cheap oil will answer, and with a brush lay a strip the whole length of the back and neck, which preserves them in a measure, from the pelting storms, a scald back, and destroys ticks and other vermin, adds to the weight, and encourages the growth of wool. By the addition of a little sulphur, it will prevent the scab and keep off flies, which annoy them during the summer.

The *stretchers* is a common and very fatal complaint. Wethers of three years old and over, are more apt to be its victims. When attacked they stand bracing on all fours, like the legs of a stool, and refuse to eat. The cause originates from air being pent up just forward of and below the hip. My treatment for this, is to give the animal a gill of hogs fat, and draw it about suddenly for sometime.

The *foot-rot* is an infectious disorder, which locates between the hoof, and unless immediate attention is rendered, it operates under the horns of the hoof; it is more easily cured in the winter or when the infection freezes. If thoroughly seated, it cannot be entirely eradicated from the flock in warm weather, unless they are permitted to run in a fresh pasture, where there is no exposure after the treatment, which is this: first, the foot must be pared, if infected, and all the ulcerous matter removed; then apply with a swab, zig or water strongly saturated with finely pulverized blue vitriol; when thoroughly done the rot will be removed, and the foot will be healed in four or five days. It is very important, that the diseased animals should be separated from the flock. Fine woolled sheep, and those that have long hoofs are more subject to the rot, and more troublesome to cure. It spreads by inoculation only, and rages worse in low, wet grounds. It is important that they should be examined every week until cured, which will

require three or four thorough examinations, where the ulceration is confirmed.

By using a trough, the description of which you have in the cut below, the foot can be examined with ease, and it is a great saving in time and labor.

[Fig. No. 7.]

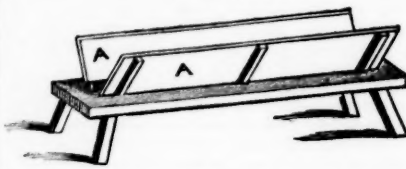


Fig. No. 7 represents a trough, which will conveniently hold two sheep, with their feet uppermost—the frame simply consists of a plank about six feet in length, in which four legs are fastened eighteen inches long; six arms are extended from the upper side of the frame, which supports the side boards A, A, six feet long and thirteen inches wide, and forms a trough about one foot in width at the top, and four inches at the bottom; this trough should stand one end near the door of another dry yard, where the sheep must remain an hour or so, after the application of the vitriol, which should be applied between the toes of every foot. By the assistance of this apparatus, three men can go over from three to four hundred sheep in one day. With respect, yours, S. W. JEWETT.

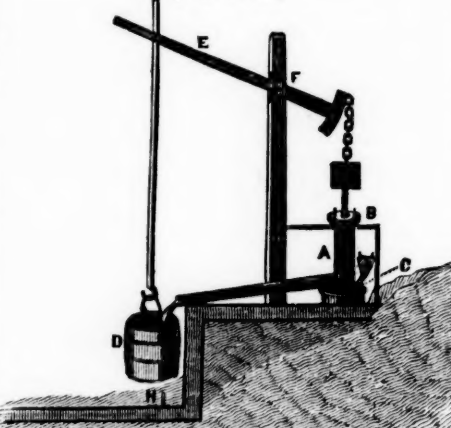
Method of raising Water.

Kingsbury, February 1st, 1839.

Hon. J. BUEL.—Sir—In the April number of the Cultivator, Mr. Curtis, of Vermont, inquires as to the cheap method of raising water to the height of 100 feet or upwards. Nothing adds more to the comforts of a farm house, or to the cleanliness and health of its inmates, than the luxurious flowing of a pure stream of water at the door. I have often, while riding past, observed the want of this necessary element around the houses and yards of our farmers, while the perennial fountain was flowing in the richest profusion, within a short distance, but unfortunately on a lower level, and as often have I wished to see some cheap and efficient engine at work, making the babbling idle brook turn itself to some good account, and pour the necessary share, at the door, a libation to neatness, temperance, industry and economy.

In Gregory's Dictionary of Arts and Sciences, an engine is described, under the head of Hydraulics, which, by its simplicity, promises better than any thing else I have seen. For the purpose of calling attention to that article, and for the benefit of those who may wish to see it, and have not that work at hand, I have made the following rough drawing, which you may publish or not, as you shall deem expedient. This engine was invented by a Mr. Sargent, who received a silver medal, from the Society for the Encouragement of the Arts. It had been in operation, with complete success, for some years, when the article was written for the Dictionary. A gentleman's hall, it seems, was situated on an ascent of sixty-one feet perpendicular height, and the engine supplied the hall with water from a small stream which ran at the foot of the hill, 140 yards distance.

[Fig. No. 8.]



A, is a forcing pump, of cast-iron. Bore three inches in diameter. B, weight attached to the piston rod; this weight is so heavy that when drawn up, and left to descend, it forces the water in the pump up the ascent, through the pipe C, which is one inch in diameter. E, is a lever, the fulcrum of which is at F. A perpendicular fall must be had in the stream, of about four feet, below the level on which the pump stands. To the edge of this descent the water is brought in the trough G, after supplying the pump, and flows into the bucket D. When this bucket has acquired a sufficient weight of water to raise the piston, with its weight B, it immediately descends until it strikes the pin H, which lifts a valve or clapper in the bottom of the bucket and lets the water out. The bucket, relieved of its load, is brought by the descending power of the weight B, to the position shown in the cut, the lever turning on the pin F. It will be seen that this engine will operate with a very

small supply of water; for whenever the bucket is filled and emptied, there must be a stroke of the piston. The end of the lever to which the bucket is fastened should be elevated as much above the level of its fulcrum as the bottom of the bucket is above the pin H, so that when the bucket begins to descend, it will acquire additional velocity by the virtual lengthening of the lever, and will strike the pin with force sufficient to lift the valve. The pump has a solid piston; also a valve in its bottom opening inward, and another opening outward, in the pipe C. Yours, L. B. ARMSTRONG.

Butter making—Ruta Baga—Value of apples for Hogs.

Milton, Ulster Co. 2d mo. 1839.

RESPECTED FRIEND, J. BUEL.—Through the columns of the Cultivator is a very convenient and extensive way of asking questions, and giving such information as we may have observed, that we think would be beneficial to mankind.

I would ask of the readers of the Cultivator, something relating to butter making. Although it has been treated pretty largely upon through the Cultivator, there are some things come under my observation, that are unaccountable to me, and to others I have conversed with on the subject. The latter part of sixth month last, in the warmest or hottest part of the month, we were unable to obtain more than about one pound of butter from five cows in a day; the milk would curdle before it was sour; the cream would rise but little and would be rosy, and in pouring out of a pitcher, would string like molasses or soft soap; we used every remedy we then thought of, to remedy the evil; every attention was paid to the cows, in giving them salt and good running water; they ran in a fine growth of clover, and gave a bountiful quantity of milk. From three of the same cows, we made one and a half pounds of butter per day, before the hot weather commenced. I have never observed but once before in twenty years, milk appearing in the way it did at the time mentioned. I inquired of some of my neighbors, if theirs was similarly affected; they said not, but complained they made but little butter. My wife, since then, has suggested the idea of milking three times a day, when the weather is very warm. Every attention was paid to the milk things.

Since taking the Cultivator, some in this neighborhood have been induced to undertake the raising of the ruta бага, and generally are well satisfied, except one or two, who have tried them, and because they will not answer in the room of all other fodder for stock, consider them not worth their attention. I have used them for milk cows, and find when they are fed on good sound roots, and not those that have been frozen or a little defected, that the butter does not have that unpleasant taste, or but very little, so that those that have not been in the practice of eating butter made whilst feeding cows on turnips, to which we would refer, thinking we had become accustomed to eating, and could not perceive it, say they did not perceive any unpleasant taste. We perceived it when we first began to feed them, as we perceive an unpleasant flavor when cows are turned in the clover, in spring of the year; I attributed that to feeding them some of the tops that got a little spoiled, before feeding in the fall.

As there has been much published in the Cultivator as to the worth of apples in fattening hogs, my experiments may hardly be worth filling the columns of the Cultivator with; if not, there is at liberty to lay them aside. In the fall of 1836, I put up eight shoats in the pen to fat, weighing them at the time, which was 105 pounds the average weight, and calculated what they were then worth, or what I could sell them for alive at that time. I then kept an account of the apples, potatoes and bran; but used principally apples, and boiled them and mixed the bran with them as I took them out of the kettle. I began before the apples were fit to make cider of; I valued the apples at twelve and a half cents per bushel, and the small potatoes at eighteen cents, and the bran what it was worth at the mill, and added the expense of the wood for cooking; when killed, they were worth \$1.50 a piece more than what they ate, valuing them at ten cents per pound, what such pork was then selling for, having the rough fat for my trouble, and not reckoned in the weight when killed. By this it would appear that apples are worth one shilling per bushel for fattening hogs, when pork is worth ten cents per pound.

J. SHERMAN.

Experiments with Leached Ashes.

East-Hartford, Conn. Feb. 1839.

FRIEND BUEL.—As your motto is for the "improvement of the soil and the mind," permit me through the medium of your widely circulated and valuable journal, to give publicity to a discovery in the preparation of leached ashes, or soap boiler's waste, so as to make them equally valuable, and perhaps more so, to the farmers of our vast interior, as to the cultivators on Long-Island, where they are bought up at an expense of 35 to 50 cents a bushel, and considered a profitable investment at that. The vast quantities bought annually in this country, (where they are considered of little value, and of none on clayey land,) and shipped to Long-Island, induced me to think that the saline matter in the soil and atmosphere, was more the cause of their wonderful effect upon vegetation, than any inherent quality in it. To give theory the test of experience, I mixed ashes with common salt, but the salt was too coarse and too long in dissolving, to combine chemically;—the next was to sow the salt and the ashes afterwards: this did better;

my next to wet the dry unleached ashes with a strong brine, and after standing a sufficient time to spread readily with a shovel, applied them as a top dressing to turnips and potatoes. In this last experiment the success met my highest expectations; the potato crop was quadrupled, and the difference in the turnip yield still greater; but the soil as in the application of all high stimulants, should have a moderate dressing of some kind of manure, and it will be found in excellent order for grass or grain afterwards.

It may be observed of crops manured and dressed in this manner, that the leaves appear of a bright pea green, instead of the darker green, denoting too much top—whilst the tuber of the potato, and the bulb of the turnip, showed the whole strength of the plant to have centered there. To carry the analogy still further, I have given the land a liberal dressing of plaster after the ashes so prepared, but not the least benefit to the crop could be perceived, any more than if it had been used within a mile of the ocean—of course it was labor lost.

The object of this communication, Mr. Editor, is not for the purpose of telling what I have done, or what I can do, to enrich and beautify this footstool of the Almighty, for I am but one amongst millions, and the least among ten thousand; but to draw the attention of my brother farmers of our vast and limitless interior to the preparation and use of an article hitherto considered a drug and a nuisance.

It is very desirable that some enterprising farmers of each county in the western part of yours, and of other states, where leached ashes are in abundance and useless, to try the experiment of wetting them when dry, with strong brine, no matter how old or stale, (if the price of salt is too high,) and communicate the result in the Cultivator. The lands found best adapted to this kind of manure on Long Island, are the poorer description of sandy and gravelly soil, and this agrees perfectly with my short experience here; so far, then, nature is true to her own laws, and no doubt every farmer in our wonderfully active climate and productive soil, will find the same striking analogy verified by experience. The season is approaching for the proper time of trial—let it be upon corn, potatoes, grass, upon spongy wet land, or newly stocked down, turnips and wheat in autumn, and should it come up to the writer's expectations, I shall think my past life not wholly spent in vain. Yours respectfully,

DANIEL EASTON.

REMARKS.

The experiments detailed in the above communication are worthy the attention of the farmer and the chemist. Two facts have long been known, the causes of which we have never seen satisfactorily explained. One of these facts is, that leached ashes are found to operate as beneficially upon Long-Island land, as unleached ashes, or more so—leaving it to be inferred, that it was not the potash which the ashes contained that induced fertility. The other fact is, that leached ashes operate more surely and beneficially within the influence of the marine atmosphere, than they do in the interior—thus inducing the belief, to adopt the language of our correspondent, "that the saline matter in the soil and atmosphere, was more the cause of their wonderful effect upon vegetation, than any inherent quality," which they possess. The experiments of Mr. Easton go to warrant this conclusion. But how they exert this agency, is a question worth investigating; and we commend the matter to the notice of some of our chemical correspondents.—*Cond.*

Treatment of Wounds on Horses.

Georgetown, D. C. February, 1839.

Wash the wound morning and night with warm soap suds, and anoint immediately after washing, with whale oil.

Having used this remedy for a number of years, at all seasons of the year, I can confidently recommend it to others. It purifies and heals the wound as soon as is desirable for soundness; protects it from cold and flies and the hair is always replaced, of the natural colour of the animal.

J. A. D.

Inquiry in regard to Lime—Ruta Baga, &c.

New York, February, 1839.

JUDGE BUEL—Sir—Being a subscriber and constant reader of the Cultivator, I have one request to make of you, or some of your able correspondents, for which I shall feel much obliged for an answer in your March number or as soon as convenient, viz.—In what way can lime be applied in the spring, to a wheat field, or is it proper to apply it at all, after the wheat has made its appearance above ground?

I have a farm in the northern part of Cayuga county, principally sandy, gravelly soil. Ruta Baga have done well, on the dry parts of it, having been cultivated for four years past, and found to answer an excellent purpose for all kinds of stock. In looking over your correspondents' experiment as applying different exhilarating properties to the soil, I have frequently regretted, they were not more particular in stating the nature of the soil, whether clay, loam, sand or gravel. Several years since I had occasion to make free use of leached ashes, on a clay soil, which I found to answer an excellent purpose; subsequently I have applied it on sandy soil, without an apparent great advantage.

I was lately in conversation with an honest, intelligent man from the cabbage raising district in New-Jersey, to whom I was complaining that I could seldom get more than one in twenty cabbages to head. He at once gave me the reason; he says there is not much soil that will answer to raise cabbage over one year; that it requires new land, ploughed in the spring, reploughed and made as tender as possible until the fourth of

July, when the plants should be set out and a handful of unleached ashes thrown in and about each plant.

AGRICOLA.

REMARKS—It is not common to sow lime upon a growing crop, though a small dressing, early in the spring, say three or four bushels an acre, would not, we think, do injury, and might do good.

Accident to Horses.

Rappahannock, co. Va. Feb. 26th, 1839.

J. BUEL, Esq.—Sir—Having been a subscriber to your valuable paper, (the Cultivator,) for some months; I find that it is designed for general utility and the public good; therefore I desire to make known, thro' that medium, an accident to which horses are liable, perhaps little known to the public. In the year 1818, I had a sick horse, and after using the usual remedies without relief, as the last alternative, I fixed a gag for the purpose of running a mop down the throat, for I believed the horse was partially choked. In this preparation, I accidentally discovered part of a corn cob tight across the roof of the mouth, which had prevented the passage of any food to the stomach, save the juice occasioned by mastication from repeated attempts to eat. The cob was removed by a smooth stick as large as a man's thumb, sufficiently long to extend into the roof of the mouth. I was then cautious not to let the animal eat much at a time, until it recovered. I have since relieved several horses from the same accident, and I have no doubt thousands of our most valuable animals have been lost from the same cause, without ever knowing of what they died. I will here remark, that it is sometimes very difficult to find the piece of cob, and remove it after found, for it will become very tight and nearly concealed by the swelling and inflammation. I trust this will find a place in your paper, which may be of benefit to some of your numerous readers. Yours, &c.

JNO. D. BROWNING.

Beneficial effects of Draining.

Springfield, Feb. 17th, 1839.

Mr. J. BUEL—Sir—In perusing the pages of the Cultivator, I have noticed frequent allusion to draining of wet meadows, and reclaiming of waste lands, a branch of agriculture which, as far as my observation extends, receives quite too little attention, from our agricultural community.

I am induced to send you my experience, in this branch of practical farming, in the hope that the attention of some may be called to this subject, who have hitherto overlooked the advantages to be derived from it. I am the more led to do this, under the apprehension which, I believe well founded, that many, who are in possession of waste lands, have either not had their attention sufficiently directed to this subject, or having made a partial attempt to reclaim such lands, and having failed to realize their expectations, through want either of knowledge or perseverance, as in the case I am now about to mention, have given it up in despair, as impracticable. The first piece of meadow to which I would direct your attention, contains from four to five acres; it is eighty rods in length, and from eight to ten rods in width; it was abundantly supplied with cold springs, running in on either side, and when an attempt was made, some thirty or forty years ago, to bring it under cultivation, large drains were dug on either side to carry off the springs, and when that was done all was done, (as was then supposed,) that was necessary for the purpose of draining it sufficiently. The plough was then applied, and by great labor and perseverance, the whole meadow thoroughly subdued and mellowed, and sown with oats and grass seed; but the experiment failed entirely. There was no crop, either of grain or grass, the superabundant water having killed the whole, and nothing grew but weeds and various kinds of water grass, of no value at all, except it be to be mown and used as litter either for the hog-pen or barn-yard.

Thus the meadow was given up entirely as irreclaimable, and remained so for more than thirty years, entirely unproductive. My attention having been called to this subject by reading and observation, I determined on making a further experiment. Accordingly, in August, 1835, I caused a ditch to be dug through the centre of the meadow, throughout its whole length, at an expense of twenty-five cents per rod, four feet wide and two feet deep, being fully convinced that superabundant water was the cause of its sterility. I then prepared one-half of the meadow for the plough, by scraping the banks of the ditches on either side into the low places where water would be likely to settle, &c. In November following, I ploughed the land well, and in the following spring, I planted it with potatoes, without ploughing again, after having harrowed in a very scanty portion of fine manure upon a portion of land. My crop of potatoes was four hundred bushels by measure. The next season, I planted the same land again with potatoes, together with the other half of the meadow, and my crop was seven hundred bushels. Owing to the distance of the meadow from my barn, and the difficulty of access, I have been able to supply it with but a scanty portion of manure, and some of it none at all.

The following season, I laid down the first half of the meadow to oats and grass, and pressed the surface well with a roller, (an article which every farmer should have,) and thus prepared the land for the successful operation of that important auxiliary in gathering heavy crops of hay, the horse rake. I confidently expect that this meadow will prove to be as valuable and productive as any land I have.

Another piece of meadow, I have, which was supplied with springs on one side only, and I well remember some

forty years ago, that my father, at considerable expense, caused a large ditch to be dug to carry off those springs, but without effect. The meadow was still wet, full of bogs, and cranberries, &c. &c. and in some places a cart wheel would sink into the hub. It was thought sufficient if the ditch was dug deep enough to come to the hardpan.

By reflecting upon the subject, I was convinced that the water, (there not being descent enough to allow the water to pass off quickly,) soaked down into the meadow, on the surface of the hardpan, and thus kept the soil saturated with water, and prevented its productiveness. I caused the ditch to be sunk six or eight inches into the hardpan, and thus confined the water in the ditch, and by this means succeeded in laying the meadow dry.

The obvious inference from the above facts is, that thorough draining is the first thing to be attended to, in cultivating wet meadows; without it, labor and manure are wholly lost.

I offer you these hints, sir, for your consideration, and if you think the publication of them would subserve the interests of the agricultural community, you are at liberty to make what use of them you please.

CHAUNCEY CHAPIN.

The Grain Worm—Feeding Turnips—Legislative Encouragement to Agriculture.

Otisco, February 19th, 1839.

JESSE BUEL, Esq.—Respected Sir—I last evening received the last number of your excellent paper, and on looking it over this morning, observed a request that the wheat-worm of our part of the state should be described to you, by me, or some one else, and I have sat down to describe its appearance now, lest I should forget to do it hereafter.

The worm which is called the wheat-worm in western New-York, belongs to the genus *Phalerna* of Latrille, (*Geometridæ* of Stephens,) and according to Wilson, embraces above eighty species. By people in general, this class of worms is usually called surveyor, carpenter, or measuring worm, from the manner in which their movements are effected. The number of legs varies in the several kinds from ten to twelve; but in the wheat-worm, there are six pair, three at each extremity. Like most other worms of this genus, it has the power of spinning a web, as may be seen from the facility with which they, when disturbed, attach themselves to straws, sides of the threshing floors, fanning mills, &c. The worm varies in length, from three-eighths to five-eighths of an inch in length; and some may possibly a little exceed the latter estimate. Between three-eighths and half an inch, may, however, be considered their average length. The colour is very uniform: a yellowish brown, or what among farmers would perhaps be termed a butternut colour. Under the microscope, it appears studded with these yellowish brown spots, divided by lighter coloured spaces; but to the naked eye the colour seems continued. That it is the larvæ of a fly or moth, cannot be doubted; though of what particular kind, does not as yet seem satisfactorily ascertained. This worm has been known for years among wheat, in this part of the state. Three or four years since a farmer assured me that in cleaning up a quantity of wheat threshed immediately after harvest, he gathered in the boxes of the fanning mill, nearly a bushel of these same worms. His wheat had of course suffered, and he was very apprehensive about his next crop; but that was entirely free, nor had he been injured by them since. It is not so much the new appearance of this worm, as its increase, which has created the present alarm respecting it. From experiments which I made the last year, by enclosing the worms with a quantity of carefully selected grains of wheat, in a muslin covered vial, it is clear that the worm feeds not only on the kernel in its soft or milky state, (though that is the time when the most serious injury to the grain is accomplished) but also after it has become hardened by ripening. It is probable, that like other caterpillars, it continues to eat till it undergoes transformation, or dies. In none of my experiments, did I find a kernel perforated after it had become hardened; but they were gnawed off by the worm, and usually from the germinating end of the kernel.

I have seen in wheat in this part of the state, but it was many years since, a worm or rather maggot, which perforated the kernel in the manner of the pea grub, and which apparently lived on the interior of the ripened grain. In this case it seemed to me, the egg must have been deposited in the kernel while in a soft or milky state. However that may be, the worm was clearly a different one from that I have above attempted to describe; and which at this time appears to threaten the grain growers of this district. Unless I have forgotten, there is in the November number of the Cultivator, an account of the perforating worm, which struck me at the time, must be identical with the one I have alluded to; but it has not since 1824 shown itself to any extent in our wheat.

It is certainly very desirable that it should be determined whether the worm of the western part of this state, is identical with that which has proved so destructive in the valley of the Hudson, and over New-England. I have been inclined to suppose, from some notices I have seen in the Maine papers, that the worm I have described was the one which was so injurious there. At any event, the size, colour, and habit, will, I think, be sufficient to enable us to come to a satisfactory solution of this point. As you have unquestionably had ample opportunities for observation, I should be pleased

to learn from you your opinion as to the difference or identity of the wheat worm of the east and the west.*

I have seen in some of the newspapers, an account of several horses being killed at Malone, on the farm of a Mr. Sabin, by his allowing them to feed freely on turnips partially heated and rotted in the pits, from want of ventilation; and the inference is drawn, that though excellent for cattle and sheep, they are unfit or poisonous for horses. This I think is an error. For several years past I have been in the habit of having them fed to horses, as daily food in the winter and spring; and some of my neighbors have also used them extensively for this purpose, and without the slightest injurious effect in any case that I have been able to learn. Spoiled turnips, like spoiled potatoes or rotted grain, may acquire deleterious properties, and should not be fed to animals; but I think no farmer need be apprehensive of injury in feeding sound roots to any animal whatever.

I have read with much interest, the brief account of the meeting of the State Agricultural Society that has appeared in the papers, and shall look with interest for the report in a more detailed form. What we wish is, to excite a proper sense of the importance of agriculture, among those in high places, and then we may expect that something will be done for its advancement, in the establishment and endowment of agricultural schools, and county societies. Agriculture is clearly the grand interest of this state, and in all the legislation concerning it, should be so viewed. I cannot think the present session will pass, without some proper and useful action on the points most interesting to the cultivator of the soil. I have been led to hope much from the domestic production of silk; and hope to see such encouragement offered as shall cause its advance, if possible, in this way. As a people, we are given to humbugs, and the short horn and mulberry speculations will, a few years hence, be looked upon, not the least magnificent of the class. Both are very valuable, both are deserving of extensive introduction, but the order of nature must be reversed before the present state of things, so far as the Durham and multicaulis are concerned, can long continue. Yours, &c.

WILLIS GAYLORD.

Farming in East Maryland.

Smyrna, (Md.) February 19th, 1839

Hon. J. BUEL.—While writing on business, I will say a word of our country between the Delaware and Chesapeake Bays. The system of agriculture heretofore has been ruinous to the land. It was get all you can, and make little or no return to it; but for the last eight or ten years, our farmers appear to be convinced of their former errors, and are giving their attention to the improvement of their lands; and the effect is, our country is fast changing for the better—lands are going up in price, although now, farms with good improvements, can be bought at from \$10 to \$20 per acre. I have travelled through the western states, and Iowa, and Wisconsin territories, and as far south as Missouri, and I am satisfied from two tours through that country, and from all the information I could get, that better investments can be made in land on the peninsula, between the two bays, than can be made in any of the western states. Our immediate vicinity to the Baltimore, Philadelphia and New-York markets, the freights being from five to six cents per bushel, and nineteen out of twenty farms being within five or six miles of tide water, must always give us an advantage over those remote sections. And again, the high price of labor is a great drawback in that country; and if we cannot make as many bushels per acre as they can there, we can make as many dollars clear per acre; for I am convinced that every dollar we lay out on our land, nine times out of ten we get paid back in the first crop, and our land is increased in value. A few years past, I purchased some poor worn out land near this place, that would not bring ten bushels of corn to the acre; and I have improved it, principally, from the resources and products of the land. I had a lot of 2½ acres and 8 rods enclosed, which was in clover in 1836. I cut the clover twice in 1836; in October of that year, I covered it with about 130 one horse loads of cow and horse yard manure, and flushed it under in the fall of 1836; and in the spring of 1837 flushed again, and planted it in corn; the rows seven feet apart—dropped, as near as we could, two feet apart; left two stocks in a hill; and a row of potatoes between each row of corn. In the fall of 1837, we got 149½ bushels good sound corn, and 315 bushels potatoes. The corn at 85 cents, the market price, is \$127.07; 315 bushels potatoes, at 35 cents, the market price, is \$110.25; gross amount, \$237.32½, being \$84.76 per acre. My friend and townsman, George W. Cummins, Esq. last year, cut from 39 acres 2 rods and 15 perches, 992½ bushels red wheat, average weight 60 lbs., making a fraction over 25 bushels to the acre.

I make these statements to show what our land will do with attention. None of this land is in a high state of cultivation. Some part of Mr. Cummins' wheat, it was thought, would cut 40 bushels to the acre. I think I can say we have not one waste acre to the 1,000, clear of the influence of the tide; that our country is remarkably healthy, and that we have all the good things the bays and rivers furnish; and yet, with all these advantages, for the last 20 years, you will dis-

* In our report to the agricultural convention inserted in our last, we expressed our belief, that the wheat-worm of the east and of the west were not identical. Mr. Gaylord has confirmed that opinion.—*Cond.*

cover our population has been nearly stationary, owing to the mania for emigration to the south and west.—Many persons wishing to emigrate, a few years past, would sell off their farms for much less than their buildings cost, and give away perhaps 300 or 400 acres of land, nearly worth \$20 the acre with proper management; but I am pleased to say the thirst and mania for emigration has almost ceased. Many have gone and spent the labor of years, and returned; and now they can appreciate our country. I saw in my western tours, persons from New-York state in the west, land speculators, who, if they would come and view our country, could not but be pleased with it. Persons of information who have travelled much through the United States, say this is the garden spot of the United States.

BENJ. BENSON.

We suspect Mr. Benson is right in saying, that Maryland and Virginia offer better bargains to the enterprising farmer, than are generally found at the west. The lands in the former can be rendered productive—and they enjoy advantages of markets, &c. which must be a great drawback to the interior west.—*Cond.*

Criticism on the Mulberry.

Mulberry Farm, N. J., March 5th, 1839.

J. BUEL, Esq.—Dear Sir—In the last number of the Cultivator, I find an answer from a gentleman aggrieved by your valuable remarks and criticisms in the January number on mulberry venders and growers. I am sanguine in the belief, that the mulberry culture and silk growing will be both mystified and retarded by the disposition many venders of the tree have to impose new names on plants that differ so slightly by climate, soil and cultivation from their natural history characters; thereby confusing the plain and honest grower with new names—creating a fear that he is cultivating the wrong variety of the mulberry. That this prevalent speculative spirit, (unsanctioned by any principles of botanical nomenclature whatever) is productive of evil consequences only, there is not the slightest doubt; and the result is, many are prevented from embarking largely in this important branch of national agriculture. I cannot see, for the life of me, the advantage gained, either by individuals or the community at large, by this multiplicity of names imposed on one or two varieties of the mulberry. In a late number of the Farmer and Gardener, the editor, when speaking of Multicaulis, Alpine and Moretti, says, "the Alpine mulberry, so called, is not known in Europe by that name, having received its own cognomen from Mr. Whitmarsh, etc." In a measure, this remark is applicable to some other kinds, at least so distinguished. The mulberry in question is cultivated in Italy, within the region of the Alps; hence its name, Alpine. Botanical men, I fancy, know it by the name of *Morus Alba*, var. *Italica*, in allusion to the country where it was first grown. It is stated that the Dandolo, Moretti, Multi, &c. came from France and Italy; but no such plants are recognized there, except by gardeners, who are continually coining new names. By calling this plant an Alpine, that a Manilla, it does not prove that that country is the habitat of either, because neither are a species, but can be produced at any place, "et ceteris paribus," by climate, soil and cultivation. Then Mr. Whitmarsh has, with equal justice, the same privilege to call his plant Alpine, that others have to call their's *Expansa*, *Rigida*, *Dandolo*, or any other absurd name, (each identical, or differing in no essential character,) provided it is not to the detriment of truth, and prejudice of individual advancement. It would be a little more definite, setting aside the principles of naming plants, to call them all Multicaulis: thus, Alpine Multi, Moretti Multi, Dandolo Multi, Manilla Multi, &c. This may be done with as much propriety as the *Morus Alba*, var. *Macrophylla*, is called *Morus Multicaulis*.—The following supposed species are mentioned by some of the gardeners, who are continually making mere varieties into species, and will elucidate the absurdity of new coinage: for instance, the *Morus rubra*, commonly called red mulberry, may be called *Morus Virginica*, *Pennsylvanica*, &c. in contra-distinction to *Morus rubra*, because its habitat is North America, and it flourishes in all the states. *Morus Tartarica*, habitat, on the grounds overflowed by the Volga and Tanais: pronounced a mere variety of *Morus Alba* by Sprengel, the author of the latest complete work of descriptive botany. *Morus Italica*, habitat Italy, pronounced a mere variety of *Morus Alba* by Sprengel.—*Morus Sinensis*, habitat China; the Alpine, Dandolo, and Moretti, I fancy, are improved from the native *Morus Italica*. The Canton is taken from *Morus Sinensis*, while the Manilla and Multicaulis, I apprehend, are types either of the *Morus Latifolia*, *Morus Australis*, *Morus Mauritania*, (Jacq.) *Morus Anipolis*, (of Poir.) *Morus Insularis*, (Foster?) whose habitats are Persia, the Mascarennas and Madagascar Islands.

In recommending the several varieties of the mulberry to the attention of silk growing enthusiasts, the largeness of the leaf is particularly descanted upon, as if that feature is the great and paramount object. As far as my experience and observation extend, it is a mistake to suppose that the largeness of the leaf is the great desideratum. For one kind of plant may produce leaves twice as large as some others, yet contain less fibrous substance, of which silk is assimilated. As this is the case, then, in aiming to procure plants producing such large leaves of vigorous growth and forced cultivation, we lose sight of the fact that those leaves contain less fibrous matter, but more succulent substance, than leaves of smaller dimensions of slower

growth, and more compact in texture. Again, all the forced varieties deteriorate when left as standards, and the ordinary culture in such cases bestowed on them, while the amount of foliage is not so great by one-half. If a leaf of the Multicaulis, measuring 6 by 10 inches, contains no more nutriment proper for the worm than a leaf of the Brousa measuring 4 by 6 inches, wherein consists the advantage of the Multicaulis over the Brousa or other varieties? If such is the case, then two-thirds of the leaf is superfluous, and must be thrown off as excrement by the worm; for all of the component parts of the leaf, in a measure, not fibrous, is almost of absolute waste. It is said that worms prefer the leaves of the Multicaulis to all other varieties.—This is purely speculative. If two different varieties of leaf of the mulberry are given to two or more worms, they will invariably eat of the leaf nearest to them, without manifesting any sign whatever that they are displeased with their food, or prefer one kind to another. They are no epicures. Well fed worms move about but little; it is the half starved ones that roam; and they are so uneasy with the pains of partial hunger, as to eat but little and taste often. We have a vast deal yet to learn on this subject, and many will, no doubt, meet with disappointments when they have counted largely the gain, without knowing the cause of failure. A year or two will suffice to bring us to our senses on this subject; and then, I opine, we will grow silk advantageously, realizing only a fair profit from capital invested, instead of the erroneous returns given by theoretical and visionary men.

But I find I have nearly spun my sheet out and must close. I have hastily strung a few words together to fill this sheet, as a passing tribute to another year's subscription to your valuable paper. I enclose the amount.

Very respectfully, &c.

J. N. KEELER.

Drawbacks upon the Farmers Profits—Ruta Baga.

J. BUEL—Sir—Many readers of the Cultivator, who are not practical men, have been led to form extravagant expectations in regard to the pleasures and profits of farming, from the report of some of your correspondents. They read of the extraordinary net revenue of some highly cultivated acre or field, but don't hear of the many losses and failures which might be told; and some, from this partial view of the subject, have embarked in the business, with anticipations only to be disappointed.

I belong to the "new school" of agriculture, if the term may be used, and am passionately fond of my profession, yet entirely practical, and moderate in my hopes of profit. I could tell of the almost total failure of the corn crop, for three successive years, after expensive preparation, and on land which has yielded ninety-nine measured bushels of corn per acre. Of wheat, too, we all know the loss suffered in attempting to cultivate it for three or four years. For successive years, the average net profits are good, if the business is well conducted; but many will be disappointed if they would become rich in a minute, and that without care and labor.

Those who write for farmers, should remember that they are plain, common sense men generally, and are apt to be offended with any utopian schemes.

To renovate an old meadow, which cannot be ploughed, I pasture with sheep for one or two seasons. The sheep should be in number sufficient to bite it very close; they should then be turned out, and the grass be permitted to grow a few weeks. This should be repeated several times in the season. I have seen a most surprising effect from this plan.

I must state a fact in regard to ruta бага. I fattened a beef principally with this root, which was fed to him until the day before he was butchered. It imparted a very unpleasant taste to the meat. The milk and butter of some cows that were fed upon the roots, were also slightly affected; and what is worse, sir, my friends ascribe all the mischief to Judge Buel. Now, notwithstanding this, I believe the ruta бага will become an important crop.

N. REED.

Amenia, Dutchess co.

¶ Judge Buel has always directed, that cattle fattened upon ruta бага should be taken from that food ten days before they are slaughtered; and that milk cows fed upon them should have daily access to salt. In Great Britain, many thousand beef cattle are annually fattened upon ruta бага.

Management of Horses—Reading.

Schenectady, 20th February, 1839.

Hon. JUDGE BUEL.—If we could, we would most cheerfully aid you in the herculean task you have undertaken, to combat the popular errors and prejudices in farming; in the improvement and employment of useful labor-saving machines, the best mode of making and using manures and treatment of the different breeds of animals.

We see that you often meet with mortifying trials; but my friend you have learnt the use and exercise of patience with your subscribers and readers as with children, for we are children of a larger growth. It is much more easy to lead than drive. We approve, much, your calm mode of answering useless questions. But, you must allow free inquiry from us who are ignorant; for we must ask questions, or remain in ignorance like children, who ought always to be answered in all their inquiries, however trifling. The answer should be to inform and interest.

My son labors with farmers to persuade them to subscribe for the Cultivator, by showing the variety of matter therein exhibited, and the extensive scope and collec-

tion of all the experiments and improvements in the wide extent of all the United States, and beyond. But it is rare that any are willing to pay the dollar, although they would cheerfully accept the Cultivator as a gift. We ask them, wherein is a man better than a horse, if he does not know more than a horse? That knowledge is power, and the horse is better than the man who has no more knowledge, for the horse is stronger; and power without knowledge to direct it, is dangerous.

We will give you an anecdote of a man living in the neighboring town of Niskayuna, but half a dozen miles from the great city of Albany, the capital of the Empire State, where light is supposed to radiate in meridian splendor. This man, with great self confidence and pride, told how he could cure a horse of the bots. His horse was ill of the bots, and he took a tea-kettle full of boiling water to pour down his throat. His father interrupted him, so that he succeeded in pouring down the horse's throat only half the tea-kettle of boiling water. In truth, the horse was immediately dead—he opened him, and found just half the bots were scalded to death, when he exulted, by saying, that if his father had not interrupted him, he should have succeeded in destroying all the bots, and proved the usefulness of his discovery. We remarked to him, that it was an unprofitable mode to kill his horse in order to destroy the bots. Oh, he said, he could easily have saved the horse, by pouring down his throat an equal quantity of oil, to heal the injury of the scald, if he had not been interrupted. He told this in great flourish, exulting in his valuable discovery in medicine.

Now, sir, how will you correct such folly, except it be by cultivating and improving the intellect of such stupid men? The best English writers on farriery, say, that no horse is ever injured by bots; and we believe it. Horses are subjects of the inflammation of the bowels, cholera, apoplexy, &c. as men are; and giving them cold water, or exposing to cold winds, to take colds when wet with sweat, &c. produce those diseases as they do in men.

Water as warm as the horse's blood is, may be given to him at any time, with impunity. It is the cold that injures him. The horse should never be watered at the well. Brook water and rain water are the safest; if the brook is distant from its source—a cold spring. So the smith will always cut off some of the frog and bars under the horse's foot, when he shoes him, because he does not know that the maker of the horse, placed the bars there to support the hoof, and preserve it from closing up. This repeated, ruins the hoof, and injures the foot. The smith who shoes my horse, is told, that when he cuts the frog or bars, he will not be allowed to shoe him again. Farmers must read, or they cannot improve.

My object in giving the anecdote is, to show you the great ignorance existing in the neighborhood of the renowned city of Albany, and the necessity of compelling farmers and mechanics to read, that they may improve.

They will acquire a fondness for books, if they would begin and practice reading useful books. They should be compelled to pay a tax, to be added to such public bounty as the legislature may offer on that condition; and then they will read to share the tax.

"Gather up the crumbs, that nothing be lost" is a most valuable injunction.

Every farmer and mechanic, and their sons, spend the evening hours of almost every day idly. If those crumbs of time spent idly were employed in reading proper books, all would be instructed, and many would become learned, and even eminent. Whereas, by idleness and neglect of those crumbs of time, in which they can earn nothing, if rightly employed, we should not meet any such grossly ignorant men as the one who killed his horse, by pouring boiling water down his throat to save him from bots.

The value of time is not understood. It is the great capital for obtaining the greatest and best riches both of this life and the future. When the poor man says he has no time, he speaks not the truth. Our great Creator, in the distribution of time, is perfectly just and impartial, for he gives to every one the same and equal measure of time. Instead of justifying such complaints as waste of time, he will answer, I gave to every one alike, and some have abused the precious gift, by folding their hands in idleness. Farmers must read, and then they will improve. Most respectfully,

DAVID TOMLINSON.

Agricultural Association for Mutual Improvement.

Spottsylvania county, Va. 25th Feb. 1839.

Sir—I enclose a preamble and regulations for the establishment of an Agricultural Association, formed upon a plan suggested in the fourth volume of the Cultivator No. 12, page 194. By the unanimous vote of the members of this association at their first meeting, I was requested to forward them to you for publication.

Very respectfully, I am your obt. serv't

WALTER HOLLADAY.

J. BUEL, Esq. Conductor of the Cultivator, Albany.

NORTH ANNA AGRICULTURAL ASSOCIATION.

That our agricultural systems are radically defective, the increasing sterility of our lands sufficiently proves. That it is our interest to improve them, if in our power to do so, none will deny. Good crops cannot be obtained, for any great length of time, upon farms made every year more barren by injudicious cultivation.

It is owing to the worn-out condition of our lands, that hundreds of our citizens annually abandon the homes of their fathers, to seek a residence in the rich countries of the West. We have reason to believe, from the suc-

cess attending new modes of cultivation, now in operation in various parts of the United States, that these impoverished lands may be restored to their original fertility: perhaps even made better than they ever were.

However this may be, it is believed to be a fact established by experience, that almost every farmer may improve his land, slowly indeed, but surely, with the limited means which may be derived from his own farm. And certainly it requires no argument to prove, that an approximation towards fertility, though slow and gradual, if it be continued for a sufficient length of time, must ultimately reach it.

Nothing, then, is needed, but the adoption of better systems of husbandry, persevering industry, and a skilful application of the means within our reach, with the blessing, at all times, of Him who giveth "rain in due season," to make our lands productive of all that can be necessary to the comfortable subsistence of man. He that abuses the ordinary gifts of Providence, is held to be highly reprehensible, under every system of moral duty. What, then, shall be said of those who abuse the greatest of all subsidiary blessings bestowed by God upon man, a soil capable, under proper management, of supporting human beings in comfort, for all time to come. By one of the most distinguished agriculturists of our country, such persons have been denominated "matricides," murderers of the bountiful mother of us all.

We have persevered in the agricultural systems of our fathers, because practically we knew of none better. If we heard of others recommended as better, we shrunk from the adoption of them, under a conviction that we at least, possessed neither the means nor the skill necessary to carry them into successful operation. We were in possession of lands covered with trees, which had been growing for ages in all the luxuriance of nature. We knew how to cut down, and to remove these; to plant, and to gather; to sow, and to reap; according to the practice of our fathers. The rich products of these lands, fresh from the hand of nature, prevented us, for a time, from feeling in its full force the effect of our system. Three-fourths of such of these lands as were fertile, have been divested of their natural growth, and subjected to the action of the plough; crop after crop, for years in succession, taken from them without manure, or repose under artificial grasses; until they are reduced, as we all can witness, to a deplorable state of sterility. Shall we yet persevere in this ruinous system?

It is, indeed, no easy matter for us to divest ourselves of habits transmitted from father to son, for a period of more than two hundred years. Nothing, perhaps, short of necessity can be expected to effect a change in them. Does not that necessity exist at the present time? It has been approaching us with rapid strides for years past, and, as we think, may now be seen, in a greater or less degree, in the impoverished condition of the fields of every farm around us.

Convinced of the truth of these positions, on which it cannot be necessary to dilate, we whose names are hereto subscribed, agree to form ourselves into an association, to be called the North Anna Association, for the attainment of knowledge on agricultural subjects.

This association shall be conducted upon the principle of mutual instruction, by the interchange of opinions relative to the improvement of our husbandry, and the management of our farms. With a view to these objects the following subjects are proposed, as particularly claiming our attention: The best modes of collecting the manure and litter of a farm; the best way of preserving them, when collected, if not wanted for immediate use; and the best modes of applying them to the crops that may be cultivated, having regard to the permanent improvement of the land.

The use of plaster of Paris; on what soils and crops its operation is most beneficial; the quantity necessary to the acre; and the best time for applying it.

The rotation of crops most proper in our soil and climate. The species of Indian corn most productive with us; the best security against the chinch-bug and the cut-worm; and the best modes of cultivating and securing this valuable grain, having regard to the product and the economy of labor.

The species of wheat most profitable to the farmer; the proper quantity of seed to the acre; the most approved modes of preparing the land for the reception of the seed; and the best way of guarding against the ravages of the fly.

The cultivation of rye and oats; which of these crops is most valuable to the farmer; and the best modes of raising them.

Whether root-crops are adapted to our soil and climate, and if so, the most approved methods of cultivating them.

Whether the making of tobacco be consistent with any good agricultural system, and if so, what that system may be.

The best time for sowing clover seed, and the proper quantity to the acre.

The best method of making and securing clover hay. Live stock generally; the breeds most profitable to the farmer, in our part of the country, and the best way of keeping them in good plight throughout the winter, having a due regard to economy.

The ploughs and other agricultural implements most approved for durability, and their adaptation to the purposes for which they are intended.

PARTICULAR REGULATIONS.

For the purpose of aiding us in our inquiries relative to the above subjects, or any others which may be deemed

important, we agree to take, in our associated capacity, the Farmers' Register conducted by E. Ruffin, the Cultivator, conducted by J. Buel, and such other agricultural publications as the association may hereafter choose to take, which shall be read at our meetings, or such parts of them as may be required to be read.

Meetings of this association may be held as often as once a month, at the discretion of the members; never at intervals of more than six months.

When necessary for the transaction of business, this association shall be organized by the appointment of a chairman, to preside for the time at its deliberations, and a secretary, whose appointment shall be permanent, to record its proceedings. Six members at least shall be required to form a quorum.

Each member shall be liable to a fine of twenty-five cents for failing to attend a meeting, unless he shall be excused at the next meeting by a majority of the members then present.

It shall be the duty of the secretary to report to each meeting such members as may not have attended the last meeting, to receive the amount due for fines from the members respectively; and to keep the funds, books, papers, and other property of the association.

As this association is voluntary, any member may withdraw from it at pleasure, by communicating to the secretary his intention to withdraw, and causing his name to be erased from the list of members.

Effect of Steeps.

Mr. J. BUEL.—Dear Sir—Mr. Hathaway's letter, published in the June number of the Cultivator, giving his opinion that steeping Italian spring wheat in strong brine for a length of time was injurious to its vegetative principle, has induced me to make some experiments in the case for my own satisfaction. The results have not been what I anticipated, and I think it my duty to communicate them. They certainly go to prove that gentlemen have been correct.

The wheat on which I experimented was the Italian; the berry fair and plump. The pickle was impregnated with as much salt as the water would dissolve. Parcels containing twenty-five kernels each were steeped for different periods of time, and placed in moist earth, marked in such a manner as that they might be easily distinguished, and suffered to remain undisturbed until the greater part of the stems made their appearance above ground.

RESULT OF FIRST EXPERIMENT

No. 1, 25 kernels, steeped 5 minutes, 2 did not vegetate.
2, do do 30 do 2 do
3, do do 1 hour 4 do
4, do do 18 do 12 do

[2 kernels missing.

The result of the parcel steeped 18 hours being unexpected, I made another trial, which was as follows:

No. 1, 25 kernels well washed in brine—every kernel vegetated.

No. 2, 25 do. steeped 4 hours, 2 kernels did not vegetate.

3, do. 8 do 6 do
4, do. 12 do 11 do
5, do. 18 do 13 do

It seems from the above, that the injury sustained is proportioned to the length of time the grain has been steeped, and that if it has been steeped 18 or even 12 hours, almost one half loses the vegetative principle.

I am fully satisfied that pickling and liming of the seed is an infallible preventive of smut in the wheat crop, but I do not think that steeping for 10, 12 or 18 hours is necessary. This opinion is founded on my own experience and observation, as well as the long practice and experience of others. My method has been, to make the brine as strong as I could, permitting the wheat to be no longer in it than is necessary for washing it, and skimming off whatever floats on the surface; when taken out it is mixed with fresh slaked lime and sown soon after. With this preparation, even when the seed is impregnated with smut (as was the case last year with part of the Italian wheat that I obtained) the crop has been perfectly clean. Liquefying, as it is called, has been practised in the wheat growing districts of Scotland for these forty years past; how much longer I do not know; but even so long ago as at that period, good farmers would almost as soon have thought of throwing their seed into the sea as they would have thought of sowing it without that preparation. Brine made from salt or sea water, or otherwise, and stale chamber ley were used, the latter most generally. When chamber ley was applied, the usual method was to sprinkle it on the heap of grain until it was well wetted; add fresh slaked lime, and sow immediately. In the application of brine, some steeped for a longer or shorter time, and others sprinkled. Without liquefying, in nine cases out of ten the crop was smutty; with it, never. I will conclude with a quotation corroborative of what I have just stated. "There is some danger from the first, for if the seed steeped in urine is not immediately sown, it will infallibly lose its vegetative power. The second, viz. sprinkling the urine on the seed, seems to be the safest if performed by an attentive hand; the last brining may do equally well, if such a quantity of salt be incorporated with the water as to render it of sufficient strength. But it may be remarked, that this last mode is often accompanied with smut, owing no doubt, to a deficiency of strength in the pickle, whereas a single head with smut is rarely discovered where urine has been used."—Treatise on B. Husbandry.

JAS. SMEALEE.

Princeton, March 4th, 1839.

The old Colony yet.

Post-Office, Pembroke, Mass. March 2, 1839.

Hon. J. BUEL—Dear Sir—I think the farmers of the old Colony have been much benefitted by the diffusion of agricultural information through the columns of the Cultivator. For one, I am free to acknowledge that I am not too old to learn, and that I have derived much information from reading your valuable paper; and you will confer a favor on me, as well as others in this section of the country, by giving your opinion of the adaptation of our soil for the cultivation of roots, (ruta baga, mangold wurzel, sugar beets, carrots, &c.) and their relative value as a crop to Indian corn, taking into consideration the exhaustion of the soil, &c.* We are just beginning to think that roots can be cultivated to advantage on our soil; that they can be profitably fed out, not only to our working oxen and store cattle, but to milk cows; and that an immense amount of the most valuable winter food for stock can be raised on an acre of land.

A considerable portion of our lands in the Old Colony are silicious loams, or light sandy soils; and much of it has been exhausted by bad tillage; by a close adherence to the old division of farms into mowing, tillage and pasture; by constantly cropping the tillage land with corn and rye, with a scanty allowance of manure; never cultivating green or ameliorating crops, nor suffering it to rest and recruit (under a system of alternation of crops) with clover and other grasses; and the mowing land having remained in the same state since the departure of the Pilgrim fathers. We have some good soils, but much of our best lands are yet unreclaimed; our bog meadows and swampy lands are capable of being converted into fertile English meadows, and will richly repay the proprietors for all the labor and expense bestowed upon them in a very few years; but the most of them lack energy; our young men have been told that our soil is exhausted; that the soil of the West is inexhaustible; therefore they all make tracks for the far west but him to whom the homestead falls, and our population and our agricultural improvements remain in "statu quo."

But the tide of emigration will have its ebb; it will yet be found out that the Far West, with all her rich alluvions and verdant prairies—with her agues and fevers, is a less formidable competitor for agricultural success, when compared with the soil of New-England, with her healthful and invigorating climate, than has generally been supposed. I am, sir, &c.

HORACE COLLAMORE.

Renovating worn out Land.

West-Suffield, March 1st, 1839.

Hon. JESSE BUEL—Sir—I purchased, some years ago, a lot of land made poor, very poor, by the exhausting system of our fathers; the soil sandy. It produced no more than about 5 or 6 bushels of rye on an acre. I fenced it into convenient fields, and commenced the following rotation: first, hauled on all the manure I could spare, at the rate of about 26 ox cart loads on the acre, spread it evenly on the surface, and turned it under with a plough, harrowed lengthwise of the furrow, and planted with corn, potatoes, beans, &c. the manure unfertilized; and planted no more than I could manure.—Second year, a broadcast crop, i. e. oats, rye, &c. with clover and timothy seeds. Third, fourth, and fifth years, pasture or meadow. The land previous to my occupation having been ploughed continually, this was necessary to obtain a sward, and to have the land consolidated. My corn produced 30 and 33 bushels, rye 10 and 12, and oats about 20 bushels per acre. Sixth year, in rye, sowed on the first furrow, or a naked fallow was substituted. Three times each method was pursued in the same field, in the same season; one, that which was sowed on the first furrow yielded much the best; the other times it was not so productive.

I would recommend that neither practice be pursued, but that the land be broken up, and oats sowed on the first furrow, and that the stubble be turned under for rye, with clover and grass seeds. This year will finish my rotation, when I shall have manured my lands once over. My neighbors admit that my land will now produce double that it would when I commenced my rotation, and without extra labor.

I propose next year, if my life should be spared, to commence my second rotation with increased means, from the fact of saving more manure from increased crops, and more knowledge obtained principally from your valuable journal: first year giving my manure to hoed crops; second year to small grains, with clover seeds; third year to pasture or meadow; fourth year, rye, or wheat, on the first furrow (of a clover lay) with clover and grass seeds for permanent meadow or pasture; that when I begin my third rotation I may have a good rich sward to feed my corn and potato crops. Thus I have doubled the produce of my lands within eight years without extra means or labor, simply by a judicious application of such means as every farmer possesses. Yours, JOHN NOBLE.

Singular change in the quality of Soils.

Suffolk County, Feb. 26th, 1839.

SIR,—You stated in the last Cultivator, that wheat cannot be depended on without the application of animal matter, or lime. I will state you a few facts as regards wheat. With us wheat was raised from the

* Satisfactory answers to these questions will be found in our report upon root culture, made to the State Agricultural Society, in the March number, and in our essay upon root culture in the present number.—*Cond.*

first settling of the county until 1780, or 90; it then failed. About that time we began to get fish, which were used for rye, which did well. It was no uncommon thing to have 40 bushels to the acre. For wheat they did not answer, neither did any other manure.—Farmers, as a general thing, gave up trying to raise it. At the present time, wheat is a far more certain crop than rye, and has been for years past. Rye has been failing for years past, and latterly many pieces have been cut merely for the straw. Here is a complete revolution in the two grains. You will say the soil has been modified by the action of manure. Take a piece of land that has not been manured from the first clearing to the present time, and you will have the same result, that is, you will probably have a fair crop of wheat, and little or none of rye. Corn has not fluctuated; it has been a steady crop, and governed by the seasons. Oats—the same. Flax has run nearly the same round as wheat and barley. The above has particular reference to the south branch of the island, Suffolk county. We have been troubled these two or three years past with a worm that starts a few inches from the head, goes the length of the straw, and comes out near the ground. It does not injure the crop materially, on account of its coming out late; it cuts the straw off about the time, or a little before, the wheat is fit to cut. I do not recollect seeing an account of it, but it may be an old acquaintance of yours. Raising wheat is an expensive business with us. The first cost of manure is from 20 to 30 dollars per acre. In favorable seasons, wheat does well; we sometimes get 40 bushels to the acre, but that is a great yield. I will conclude by wishing you may infuse a little of common sense into our legislature. Yours, &c. S.

REMARKS.—The facts above stated, with regard to the remarkable change in the properties of soil, are new to us, and are worthy of philosophical investigation. We will not hazard a conjecture as to the cause, with the few facts before us, but we invite an investigation by more competent hands. Let the western farmer note, that manuring in Suffolk costs 20 to 30 dollars an acre, that with even this expense, farming there is profitable, and that the soil there, before it was worn out, was probably deemed as good as it now is at the west. It is easier to preserve than it is to restore fertility.—*Cond.*

American Society for the Diffusion of Useful Knowledge.

To the Editor of the Cultivator:

SIR—Your paper for January, contains a communication, dated "Concord, N. H., Nov. 24, 1838," making charges against "The American Society for the Diffusion of Useful Knowledge," and those by whom it has been managed, which are of such a nature, that we feel it to be due, not merely to ourselves, nor yet solely to the society with which we are connected, but also, and most especially, to the great interests of our national education, that they should not be allowed to go before the public unanswered.

We speak in sober sincerity, when we say, that we consider, that this matter most especially concerns the great interests of our nation's education. We pretend not, that such charges against a society, on which we have bestowed much labor and thought, and which we believe, is becoming an instrument, by which may be effected great good to our country, much less, that statements aspersing our private characters, fall upon our ears, without producing sensations of sorrow and pain; still, our hearts are not so bound up in that society, as to be unwilling that its objects should be effected by other means; and we must be allowed to say, that we have no fear, that our characters rest upon such frail foundations, as to be overthrown or even shaken, in the only sphere in which they are of value to us—the circle of those who know us, and with whom the affairs of life bring us in contact—by assertions imputing to us such gross fraud, as those contained in the communication referred to. But when we look at the effect these statements must produce in the public mind, if they meet with general belief, we cannot but perceive, that almost a death blow is given to every hope of ever enlisting the mighty influence of united effort, in the work of supplying the urgent wants of our people, for sound education and healthful knowledge.

If it be possible, in these days of light, when a vigilant press is watching every enterprise which concerns the public interest, and conveying on the wings of the wind, every rumor to the most distant hamlet, if it be barely possible, in these days, that "a few individuals who care for nothing but the profits of the concern," can prosecute a speculation in books, under the pretence of diffusing useful knowledge, and publish to the world, "without their knowledge or consent," the names of many of the most respectable and benevolent of our citizens in every part of the land, as approving the plan and its execution, and not one intimation be given to the public, by one of those, with whose names so gross a liberty has been taken, that they know nothing of the society or its plans, when will the people know whom to trust? Well may our people, although conscious of the pressing need for united effort on this important subject, and willing, each to contribute his share to the great work, pause before they do anything, and resolve to confine themselves to the feeble endeavors of individual effort and unconnected influence, if so unscrupulous an attempt "to do a good profitable business" out of the intellectual and moral wants of our nation, can be suffered to go on, under the sanction of such names, without one warning being given, by those, whose fair reputation has been made the cover of so unprincipled a speculation.

Under these considerations, the subject assumes importance; by these considerations, and these alone, are we induced to notice the attack made upon us.

Your correspondent's statements will be considered in the order in which he makes them. The first is in the following words:

"It was stated that the members of that society, or most of them, were elected without their knowledge or consent."

"I found that many of the individuals named as members, were made members without their knowledge or consent.—And some of my friends were among the number."

As no list of the members of the society, has ever been published, your correspondent evidently does not refer to members properly so called. He undoubtedly refers to the names

printed, in the first part of each volume of the published library, as those of presidents, vice-presidents, &c. Every gentleman so named, was regularly elected to the office assigned to him in that list; and notice of his election was sent to him.

Some signified acceptance of their appointments, in written or verbal communications; others, by attending meetings in the capacities, which the list referred to, represents them as filling.

By all such, we consider their appointments to have been formally accepted.

To all the other gentlemen, were written or printed notices of their appointment sent, and they were deemed to have accepted the same, from never having intimated any disinclination to accept it; but not until after the lapse of ample time, for returning an answer declining the appointment, without receiving any such answer, was the name of any one gentleman published.

We give below, all the names in the list, together with a statement of the manner in which their appointments were respectively accepted.

President—Hon. Stephen Van Rensselaer, formally accepted.

Vice-Presidents.—Governor Marcy, Albany; Hon. Albert G. Bustin, and Hon. Reuben H. Walworth, New-York; Francis Wayland, D. D. Rhode Island; Hon. Theodore Frelinghuysen, and Hon. Samuel Southard, New-Jersey; Hon. Wm. Robertson, and Hon. Wm. C. Rives, Virginia; Gov. Duncan, Illinois; Henry R. Schoolcraft, Esq. Michigan; Governor Everett, and Hon. Daniel Webster, Massachusetts; James Milner, D. D. New-York; Hon. Ruel Williams, Maine; Hon. Roger M. Sherman, Connecticut; Thomas Sewell, M. D. District of Columbia; Hon. Henry Clay, Kentucky; have formally accepted.

Rev. Benjamin T. Onderdonk, New-York; Hon. Franklin Pierce, New-Hampshire; Hon. Robert C. Greer, Pennsylvania; Hon. Roger B. Taney, Maryland; Gen. James Hamilton, South-Carolina; Hon. Henry Hitchcock, Alabama; Hon. Alexander Porter, Louisiana; Hon. Felix Grundy, Tennessee; Rev. Charles P. McIlvaine, Ohio; Governor Dunlap, Maine; Hon. Horace Everett, Vermont; Hon. Horace Binney, Pennsylvania; Hon. James Bayard, Delaware; Hon. William Gaston, North Carolina; Hon. John M. Berrien, Georgia; Hon. Robert J. Walker, Mississippi; Hon. Thomas J. Lacy, Arkansas; John C. Young, D. D., Kentucky; Hon. William Hendricks, Indiana; Hon. Lewis F. Linn, Missouri; are the other gentlemen named in the list as vice-presidents, and have each had, a written or printed notice of his appointment, sent to him, and, from not one of them, has there ever been received any communication declining it.

Board of Directors.—Alonzo Potter, D. D., John Knox, D. D., Jacob Janeway, D. D., Rev. John A. Vaughan, Rev. Gorham D. Abbot, and Hon. Benjamin F. Butler, New-York; Hon. Samuel J. Armstrong, Massachusetts; Hon. John Sergeant, Pennsylvania; Peter G. Stuyvesant, Esq., Hugh Maxwell, Esq., Charles Butler, Esq., James Brown, Esq., Eleazer Lord, Esq., Thomas Cook, M. D., John T. Gilchrist, Esq., and Samuel W. Seton, Esq., New-York; Israel Collins, Esq., Pennsylvania; Thomas McAnuley, D. D., Thomas De Witt, Rev. George Potts, Rev. John Proudfit, Hon. Samuel Jones, Hon. Heman Lincoln, David Graham, Esq., Hiram Ketcham, Esq., Timothy R. Green, Esq., Cornelius Baker, Esq., John Griscom, L. L. D., Anthony P. Halsey, Esq., and Robert Kelly, Esq., New-York; Thomas J. Wharton, Esq., Pennsylvania; have formally accepted.

Hon. Samuel Hubbard, Massachusetts; Frederick A. Tracy, Esq., and Francis I. Hawks, D. D. New-York; Benjamin Siliman, L. L. D. Connecticut; Hon. Myndert Van Schaick, New-York; Bradford Sumner, Esq., Massachusetts; George S. Robbins, Esq., New-York; Isaac S. Lloyd, Esq., Pennsylvania, have had written or printed notices of their appointments sent to them, and have never directly or indirectly declined to accept them.

Executive Committee.—James Brown, Esq. Chairman, and John Torrey, M. D. New-York; Alonzo Potter, D. D. Secretariat; Wilbur Fisk, D. D. Connecticut; Rev. Jacob Abbot, and Rev. Bela B. Edwards, Boston; Rev. Leonard Bacon, New-Haven; Charles Butler, Esq., and Thomas Cook, M. D. Lewis C. Beck, M. D. N. Y. University; Wm. Cooper, Esq., John T. Gilchrist, Esq., Timothy R. Green, Esq., Marcius Willett, M. D., Wm. Betts, Esq., and Henry E. Davis, Esq., New-York, have formally accepted.

To the Rev. Calvin A. Stowe, of Ohio, printed notice of his appointment was sent, and no communication declining it, has been received.

Gorham D. Abbot, Secretary, and Anthony P. Halsey, Treasurer, have formally accepted, and are now fulfilling the duties of their respective offices.

These facts speak for themselves, and completely refute the charge of gentlemen being "elected without their knowledge or consent." We would add the remark, that the executive committee, are, as their name imports, the acting portion of the society; those, on whom the proper management of its concerns directly falls; that the board of directors, by the constitution, under which they were elected, and which has been printed and extensively published, are designed, to meet but once a year, unless specially convened, and to exercise a general superintendence over the executive committee.

The office of vice-president, as is well known, is an honorary appointment, involving no labor other than, perhaps, presiding at some public meeting.

We believe, that the receipt of a notice of appointment, without returning any intimation of unwillingness to fill the office, is considered an acceptance of it.

It will be seen, that the highly respected gentleman, who was named as our president, had, formally accepted the office. That of the vice-presidents, thirty-seven in number, seventeen have formally accepted. Of the Board of Directors, thirty-nine in number, thirty-one have formally accepted.—Of the Executive Committee, seventeen in number, sixteen have formally accepted.

We will only add, that our libraries have been extensively published, every book in them containing the above list; our prospectuses, notices, advertisements and circulars, most widely spread over the whole country, with the above list of officers; and we have never, from any one gentleman named in that list, received any communication, directly or indirectly declining his appointment.

The next charge is in the following words:

"The whole matter was managed by a few individuals, who cared for nothing but the profits of the concern." "The amount of it is, that the society was planned by Mr. Abbot, the secretary, and more as a speculation, than any thing else." This statement comprises two charges—first, that Mr.

Abbot planned the society, and that a few individuals managed it. Secondly, that it was gotten up and managed as a speculation.

The first charge literally construed, amounts to nothing.—To say of the society, that it was chiefly planned by one man, and was conducted by a few; is only to say, what is notoriously true of every society that ever existed, especially in its earlier stages, and most particularly in our country, where all who have ever been connected with benevolent institutions, have experienced the great difficulty of getting our busy citizens, to attend to matters unconnected with their own affairs. But the charge conveys more than this general fact; it intimates that it was a plan, secretly devised by Mr. Abbot; and that its management was studiously confined to a few. To this construction of the statement, we can only give a flat contradiction. That to Mr. Abbot's persevering activity, in bringing before the minds of some of our most enlightened and influential citizens, the vast importance of enlisting the mighty power of the press, in the service of our national education; and to the light, thrown upon the subject, by the mass of valuable information, which he had collected from similar institutions in England, the existence of the American Society for the Diffusion of Useful Knowledge, is chiefly owing, all know, who know any thing of its origin and formation; and that on a comparatively few has fallen the labor of managing its affairs, is also true.

But it is utterly untrue, that the organization and plan of the society, were the work of Mr. Abbot, either alone, or in concert with a few individuals only; or that its management, has been intentionally confined to a few. The formation of the society, was the result of the mutual consultation of many gentlemen of the highest public and private character. Its plan was discussed and finally adopted in public meetings, held in this city, which were called by notices in the newspapers, declaring the object for which they were convened; and throughout its whole existence, an extensive correspondence has been carried on, with distinguished citizens all over the country; and the executive committee, have eagerly availed themselves of information and advice from every quarter, and earnestly endeavored to procure the active aid of their fellow-citizens. No one can regret, more than they do, that greater numbers do not engage in this most important cause; and none are more willing, that every step which has been taken, by the comparatively few, who have heartily engaged in it, should be spread before the eyes of our whole people.

As to the other part of the statement—that the society is a cloak for speculation, we feel degraded in even contradicting so gross a charge; but, as entrusted with the management of a society, professing to promote public interests, and seeking for support from the public, under the sanction of most honorable names, we feel it to be due to the public, and particularly to those, who are thus indirectly charged with silently lending their influence to a disgraceful trade, to state briefly what the society has actually done, which will at once refute the charge of speculation; and also, what is conveyed in the following portions of the communication under consideration.

"I find that the library of 50 volumes, is made up of the old volumes of the 'Family Library,' and the 'Girls' and Boys' Library,' printed from the old plates, and the only variation was in the binding. (These series were published by Messrs. Harper, of New-York.)"

"Be-ides, the committee of the society consented to make a statement, which is little less than downright deception."

"Under the head of 'EXECUTION OF THE PLAN,' it is stated, 'all the arrangements for carrying the design into execution, are in a state of forwardness, so far as they can be, before the necessary funds are secured.' It is estimated that \$15,000 are required to manufacture the stereotype plates for 50 volumes." &c.

"Now, the very volumes offered, are printed from plates that have been used several years, and on examination of some of the volumes, you will find that they have two title pages, one 1835 or 1836, and another 1835—proving that they were printed two or three years ago!!"

"If publishers wish to get off their old stock, let them say so; but, in the name of heaven, let not the friends of education come forward with any plans of deception."

"These charges, we say, will be fully refuted by a brief statement of what has been actually done."

After its organization, the society proceeded to ascertain by correspondence with authors, printers, and others, how best to carry its plans into execution, and what funds would be necessary for that purpose; and learned that \$15,000 would be requisite; and so stated in their published prospectus, as quoted above—and most happy would the society have been, could they have raised "the necessary funds;" those funds, as the prospectus stated, were the only thing wanting; but, unfortunately, before they could be raised, that season of commercial distress, from which our country is but just now beginning to recover, came on, and it was superfluous to add, that it was impossible to raise any thing like the sum proposed.

The statement annexed, shows what funds have been raised by the society up to this date, and how they have been disposed of. It is enough here to state, that the stereotype plates for the fifty volumes have never been manufactured, because the \$15,000 have never been raised.

After having made ineffectual efforts to raise that sum, and in the midst of the gloomy period alluded to, the society received information from the public authorities of this state, of an appropriation made by the Legislature, for the purchase of Common School Libraries; an appropriation, which rendered it morally certain, that \$110,000 would be expended in this state, during each of the years 1839, 1840, and 1841, and that most probably, at least that amount, would be annually expended for that purpose, for some time afterwards. It was obvious, that libraries of some kind or other would be purchased; and it was also obvious, that, unless some competent and disinterested persons should undertake the selection and publication of such libraries, it would be more than probable, that they would be composed, in part, at least of books, whose introduction into our schools and villages, might prove any thing but a blessing to the state, and might be purchased at prices, which greater harmony of action would have materially reduced.

In this emergency, the society again looked over the field, to ascertain how they might best further the enlightened and benevolent views of the legislature. It found itself without resources to induce authors to compose original works; without the capital, necessary to undertake the publication of a li-

brary on its own strength; without the power to do any thing further than to select a library from existing publications; and utterly unable to do that, unless through the agency of some publishing house of established character. The alternative presented to the society, was not whether to publish such a library as they originally intended, or such as they did publish; but whether to publish such as they did, or leave our common schools to be supplied, for a time at least, with libraries at hap-hazard, by those to whom pecuniary profit must be the chief consideration, and who would be under no responsibility whatever, for the character of the books they furnished.

In the words of the prospectus, which is prefixed to every volume of the published library, and which we are sorry, has not chanced to meet the eye of your correspondent—"The increasing interest in the subject of school libraries, and the repeated calls upon the committee for their library, have induced them to issue the present selection from existing publications, to suit the immediate wants of common schools, while they go on as fast as possible to complete the plan announced in the published prospectus."

As to the character of the books composing that library, we will speak presently.

The committee, among other publishing houses, had their attention called to that of the Messrs. Harper & Brothers, of this city. In the establishment of those gentlemen, they found many works already stereotyped, from which, although not having every quality, which, we hope, will be found in those prepared by the society, were yet of excellent character, and would form a portion of a good library, which would meet the emergency, which demanded immediate attention, and compelled the society to depart somewhat from its original plan. After much deliberation, the committee accordingly made an arrangement with the Messrs. Harper, of which, the first series of the "American School Library," is the result.

It was agreed with the Messrs. Harpers, that the committee should publish a library of 50 volumes, which should be mainly selected from works published by those gentlemen, and make such alterations as should be practicable, that the whole should be neatly bound in an uniform style, with title pages, denoting them to have been published under the direction of the society; and the 50 volumes should be arranged in neat boxes, which, both served as enclosures for their transportation, and as book-cases when they had arrived at their place of destination. Each box was to be handsomely painted, and furnished with a printed catalogue of its contents.

The price at which similar publications had been sold to the reader, was fifty cents per volume: the library published by the society, bound more neatly than the ordinary style, and arranged in cases, in the manner above described, costs the reader twenty dollars for the fifty volumes, or forty cents per volume. So that one effect of the arrangement was, to reduce the price of the works, published under the direction of the society, one-fifth, or twenty per cent. In other words, 100 volumes with a book-case, are now bought, for what formerly bought 80, and deducting the cost of the book-case, for what formerly bought 74 volumes. It must also be remembered, that the former price referred to, was that of works published with a view to most extensive circulation, and was put at a rate intended to attract purchasers by its low-ness.

The only provision made for the society, was an appropriation of a portion of the proceeds, for the purpose of enabling it to employ agents, in effecting the introduction of the library into the various school districts.

Such was the arrangement with the Messrs. Harpers: how far it will prove profitable to those gentlemen, we know not; but whether they should, or should not make money by it, affects not the question at issue: The question which was presented to the executive committee, at the time alluded to above, when they felt bound, though unable at once to do what they had hoped, yet to do what they could to meet the immediate emergency; which was, whether they should make some such arrangement as the one just mentioned, or leave our school and village libraries, for some time to come, to be supplied by those, whose main motive must be the hope of profit—and depend for their selection, in many instances, on those, whom neither education nor experience had fitted for the task.

The society adopted the former alternative, under a feeling to do so. It may prove profitable to the publisher, but whatever pecuniary advantage he may reap from it, dwindles into insignificance, compared with the substantial benefit reaped by the country, from having hundreds of well selected libraries distributed throughout the land; and valuable works put at a price, that enables the most needy to purchase them.

The executive committee have believed, that their publications were unexpended in cheapness; they may be under an error, but if so, it arises from want of information.

The charge of speculation, is, in other words, that the projectors of this enterprise, were chiefly moved by the hope of profit. Now, as to the publishers, we must at once admit, that in all human probability, the chief motive impelling them to form arrangements with the society, was the hope of gain. If there be one, who expects that printers will print for nothing; that binders will convert the fluttering leaves into the compact volume, without compensation; that capitalists will lend the use of funds, without expectation of any return; he may perhaps be disappointed, when he finds that it required the hope of profit, to induce the firm who manufactured the School Library, to put into operation the complicated machinery of their establishment. We frankly say, that if there be persons with such views, we despair of ever gaining their approval. We expect to pay a profit to every paper-maker, every printer, every binder, every carpenter, who furnishes paper, ink, thread, or book-case for our publications; and hence arises the necessity of raising funds, before we can proceed in the "execution of the plan."

The question of profit, concerns the bookseller alone: as to the society, we have already stated, that no provision was made for it in the arrangement, except the one mentioned for the purpose of paying agents; and even that, seems most likely to prove inadequate for the purpose. As to individual members, there cannot arise a combination of circumstances, which can by any possibility, make the society a source of profit to one of them. We feel a sense of degradation in making these declarations; but the same feelings, which have led us to expend money, and labor, and care, and time, upon this enterprise, and which alone, induce us to notice the charges which we are now answering, also constrain us to declare, to those for whom we profess to have labored, that, with whatever degree of wisdom our measures have been conducted, or with whatever success they may have been crowned, the hands which have labored in their accomplishment, are not grasping after pecuniary profit.

One more remark on this portion of the subject. Your correspondent intimates, that the library published is a contrivance to pass off the old stock of the publishers as new publications, issued under the "execution of the plan," contained in the society's prospectus. Now, to say nothing of the probability, that men of such standing as those who formed the executive committee, by whom the library was published, should volunteer to blast their own characters, in order to assist the publishers in so admirable an enterprise; and should be guilty of "little less than downright deception," in order to do so, without the most distant possibility of reaping any profit themselves, it seems a little strange, that it did occur to your correspondent, that, if any deception, such as he alluded to, was ever dreamt of, the fraud must have been as clumsy in its management, as it was gross in its conception; that they who were profligate enough to practice gratuitous roguery, in order to help a publisher off with his old stock, were also senseless fools enough, to send forth to the world, in every book they published, the obtrusive evidence of their deceit; that they wished to pass off works as new publications, whose every title page declares, that they were not so; and whose every preface states that they were existing publications. [From the Executive Committee.]

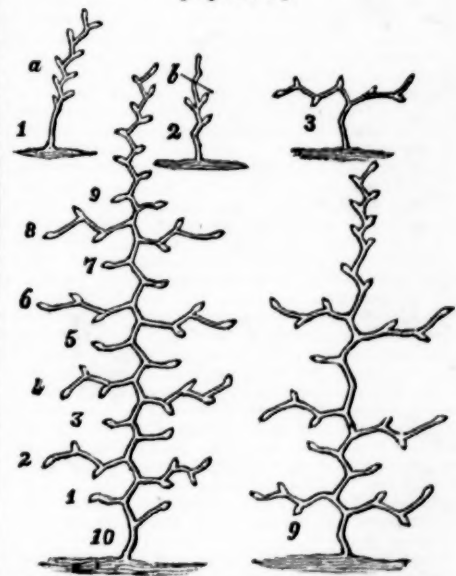
EXTRACTS.

Grape Culture.

[From Wilson's Economy of the Kitchen Garden.]

There are only two methods generally practised for raising grapes in this country, on trellises and arbors, and by the support of stakes, as in most vineyards. The former is much practised about towns, and with which we shall commence our directions on the best mode of training. But in the first place it will be necessary to say something about the preparation of the ground to receive the plants; for unless it be put in good order, it cannot be expected that the vines will thrive. Therefore, whenever vines are to be planted, the ground should be trenched to the depth of two full spades at least, and to as great an extent on each side of the place where the plants are to be set, as the situation will admit of. If the whole garden can be thus trenched, so much the better. And in performing the trenching, a good supply of short dung should be well incorporated with the soil, which, if poor, should have the thickness of one foot of horse and cow dung laid all over it, and mixed in it in the trenching. This should always be done, if possible, the fall before planting; and by being well turned over with the spade early in the spring, would be in fine order for receiving the plants. Great care should be taken in removing these plants never to suffer their roots or small fibres to be exposed to the air so as to become dry. And the hole to receive them should be made sufficiently large to admit them freely at their full length, and should all be placed as nearly as possible about the same depth below the surface, as they were before they were taken up. No plant is easier to train, or looks better on a trellis or arbor, than the grape vine; and we would recommend either of the following modes. The first is calculated for a scale, where the plant is to cover a space eight feet in width, and of any height, from eight feet to eighteen or more.

[Fig. No. 9.]

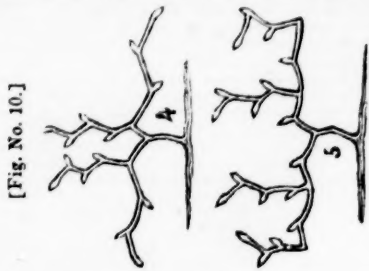


No. 1, on the plate, is a representation of the plant when set out, of one year's growth from the cutting, and is to be cut off to one good bud, as at a. The lower bud is seldom counted, and only the upper bud is to be allowed to produce one shoot; the young buds on this shoot will many of them shoot out in the course of the summer, which should be pinched off.

No. 2 represents the plant of one strong shoot, one year after being planted, and it is to be cut down to two good buds, as at b, about fifteen or eighteen inches high from the ground. The shoots from these two buds are to be trained to a trellis, horizontally, to a distance of four feet, and then their ends pinched off, as we intend the plant to fill a space in width of eight feet.

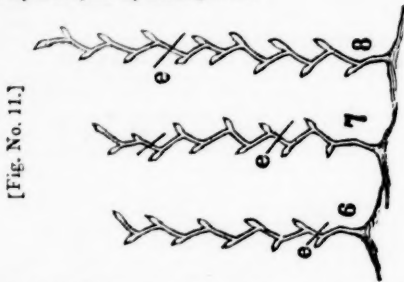
No. 3 represents the plant two years after setting out, with the two last years' horizontal shoots, as they must be cut into three good buds. The two buds next to the

stem are to be allowed to shoot and grow upright as high as they please, to be tied up to the trellis, and the end buds to be trained horizontally, to the limits of three or four feet distance, and again pinched off.



No. 4 represents the plant three years from setting out, with its two last years' upright shoots, as they must be cut down to four good buds, which are this year to be allowed to bear fruit, and the horizontal branches cut into three good buds; their shoots are all to be trained upright, which will complete the head of your vine, with eight branches, at about one foot apart.

No. 5 represents the vine four years after setting out, with the two centre branches that bore fruit last year, as they must be cut down near to their origin. The next two cut down to four buds for bearing fruit. The next two to one good bud, for producing one good wood shoot. The next and last two, to three buds, for bearing fruit. Its regular culture afterwards is, to cut four of the branches low down, and to leave four longer to bear fruit alternately, always allowing the branches that bear fruit the one year to be cut down for recovering a good shoot again for bearing the next. The other mode of training, is called horizontal training, but may be extended to any height or distance you please, so long as you retain the leading shoot, or it may be confined to a very low space by cutting it off.



No. 6 represents the plant when set out, the same age as the other; to be cut also to one good bud, as at c. This bud to be allowed to produce one good shoot.

No. 7 represents the plant one year after setting out, to be cut down to three good buds, as at d. The shoot from the upper one of which is to be trained upright, and the two lower ones are to be trained horizontally.

No. 8 represents the plant two years from setting out. The leading shoot of which is to be cut down to nine buds, as at e. The upper bud to be allowed to shoot upright, and all the others horizontally; four feet from each side. The two last years' horizontal ones cut as they must be to one good bud, its shoots to be trained as it was last year.

No. 9 represents the plant three years after setting out, with its branches cut as they must be. The two lower ones to three good buds for bearing fruit. The next two cut to one good bud for wood. The next two, to three for fruit. The next two, to one. The other two to three, and the leading one again to nine. The upper bud to have its shoots continue upright, the other eight horizontally.

No. 10 represents the plant four years from setting out, with its branches cut as they must be. The lower two to one good bud; the second two to three buds; the third two to one; the fourth two to three; the fifth two to one; the sixth two to three; the seventh two to one; the eighth two to three; the ninth two to one; and the leading shoot to nine buds. All to be managed in the same way as those of last year. And in this way you may continue your plant as far as there is room; when that it is terminated, cut off your leading shoot, and regulate all the horizontal branches so that they may bear fruit and wood alternately to the end of the grape vine's existence.

It may be necessary to observe, that in the first mode described for training the vine, the two horizontal branches or arms to support the upright shoots, are intended to extend four feet from each side of the main stem; and on each of them are to be selected four upright branches, which will make them about a foot apart. It will be necessary to rub off any intermediate buds, so as to regulate them, to be placed at proportionate distances. And after they are once cut down to one bud, the next year's cutting down would be a joint higher, and this may be safely allowed for a year or two; but whenever they get too far above the arms, by cutting down to the lowermost new bud, they must be cut down on the old wood near to their origin, and only one good shoot allowed to grow; any other bud to be rubbed off. And the same rule must be observed in cutting in all the branches of those trained altogether on the horizontal plan. And in directing nine buds to be left on the lead-

ing shoot, it is only intended in case the plant be very strong and vigorous; should it not be so, it would be better to cut it to five, or even three buds, in which case there would be only one or two branches to be trimmed horizontally on each side, instead of four, as exhibited on the plate; and the choice of these numbers should always be regulated by the cultivator according to the actual strength and condition of his vine. And the same discretion is to be exercised in leaving the number of buds on the bearing branches, from three to four, to double that number, when his vine is strong. But the mode of cutting them in after bearing one year, and the continuation of their regular number and distances are seldom or never to be altered. Every bud of those left bearing, sends out young shoots which produce the fruit, and these must all be neatly tied up to the trellis; but all the lateral shoots from the other, constantly rubbed off. Perhaps no plant bears the knife better than the grape vine, nor can there be any thing more simple, easy, or entertaining, than the training of it, according to those principles which we have endeavored so plainly to describe. Those vines trained over arbors generally have their heads formed higher, but the principle of training all their parts so as to be regularly supplied with fruit and wood-bearing branches, is precisely the same as those described above. The great error that most inexperienced cultivators fall into is, their neglecting to cut down, in time, into the old wood, or their regularly selected branches: and suffering laterals to extend from all parts of their vine, they soon let it run into the wildest confusion. In all such cases the only remedy generally is, to cut off the whole concern, to that proper position upon the old wood where the head ought to be formed, and regulate the whole anew.

Moneys received up to 23d of March, in sums of five dollars and over. The total receipts are included from post-offices marked with an asterisk.

No. Vols.	No. Vols.
Amsterdam, Mont.	6 Framingham, Mass. 11
*Augusta, Ga.	35 Fishkill, Dutch. 13
Akron, O.	6 Franklin, Mass. 5
Alfred, Alle.	25 Farmer, Sen. 12
Alexandria, D. C.	33 Fort Ann, Wash. 5
Auburn, Va.	7 Frederick, Md. 33
Amenia Union, Dutch.	8 Ford Du Lac, W. T. 5
Ashfield, Mass.	11 Fulton, Osw. 6
Bytown, U. C.	5 Falling Bridge, Va. 11
Burlington, Vt.	17 Front Royal, Va. 9
Hingham, Broome.	13 Frankfort, Ky. 12
Brandon, Vt.	11 Franklin, Tenn. 13
Boston, Mass.	61 Freehold, N. J. 17
Bethlehem, Ct.	11 Flemingsburgh, Ky. 11
Bath, N. H.	11 Greenwich, N. J. 55
Bridgeport, Ct.	15 Granville, O. 11
Baltimore, Md.	23 Goshen, Or. 5
Bennington, Vt.	12 Gaylord's Bridge, Ct. 5
Blacksburg, Va.	6 Gaines, Orl. 11
Bath, Steub.	20 Goshen, Ct. 13
Boydton, Md.	12 Greenfield, O. 5
Brookville, Pa.	7 Gustavus, Vt. 8
Brownsville, Berlin Centre, Rens.	5 Georgetown, D. C. 22
Billerica, Mass.	15 Gallipolis, O. 16
Blawenburgh, N. J.	6 Glade Springs, N. J. 6
Birmingham, O.	7 Gratitud, N. J. 6
*Butternuts, Ots.	24 Greenfield, Mass. 6
Bernardstown, Mass.	10 Huntington, Pa. 5
Buskirk's Bridge, Rens.	11 Hamilton, O. 25
Becket, Mass.	15 Hadlyme, Ct. 11
Bern, Alb.	6 Howard, Steub. 11
Brandenburgh, Ky.	5 Harrisburgh, Pa. 11
Copenhagen, Lewis.	11 Harrisburgh, Va. 6
Crown Point, Essex.	11 Hartford, Ct. 19
Chestertown, Md.	24 Hillsdale, Col. 11
Cabin Hill, Del.	3 Hickory Ground, Va. 27
Church Hill, Md.	12 Huntington, Suff. 24
Camden, Del.	5 Harrison, Westchester, 5
Cantonbury, Or.	8 Hagerstown, Md. 22
*Coxsackie, Gr.	15 Hartland, Ct. 7
Columbia, Ct.	7 Holisboro, Illi. 5
Canaan 4 Corners, Col.	7 Holland Patent, Oneida, 7
Centerville, Md.	5 Hollis, N. H. 11
*Clinton, Mich.	11 Hannon, Chem. 6
Canton, Ct.	7 Hancock, Md. 11
Charlotte, Vt.	14 Humersville, Va. 5
Columbia, S. C.	11 Johnston, Mont. 10
Commons, R. I.	15 Independence, Ia. 5
Clifton Forge, Va.	5 Jericho, Vt. 5
Cuckooville, Ct.	7 Jefferson, Ia. 5
Colebrook River, N. J.	23 Jackson, Tenn. 5
Cinnaminson, Ct.	8 Johnson, Vt. 7
Colchester, R. I.	14 Jersey Shore, Pa. 8
Coventry, Md.	3 Kinsman, O. 8
Cecilton, Vt.	11 Kingston, Uls. 8
Clarendon, S. C.	5 Kaskaskia, Illi. 22
Coates Tavern, Mass.	12 King William C. H. Va. 5
Chester, Illi.	5 Kanawha, C. H. Va. 20
Carrollton, Tenn.	5 Lawrenceburgh, Ia. 7
Cave Hill, Tenn.	5 Lima, Liv. 14
Dandridge, O.	53 Lawrenceville, Pa. 15
Dayton, Mass.	19 Liverpool, Onon. 12
Deerfield, Del.	5 Lockport, Niag. 9
Dover, Md.	5 Livingston, Col. 6
Darnestown, Va.	10 Lansingburgh, Rens. 22
Daper's Valley, O.	11 Louisa, Ky. 11
Damascoville, O.	12 Leyden, Lewis, 15
Durham, Gr.	5 Litchfield, Ct. 30
Dover, N. H.	21 Logan, Tomp. 11
Dublin, Pa.	15 Lee, Mass. 14
Easton, Va.	11 Locust Grove, N. J. 11
Ellisville, Md.	12 Leeds, Gr. 6
E. Groveland, Liv.	8 Liberty, Va. 15
Edgercomb's Cor. Sar.	11 Livingston, Va. 24
East Hampton, Suff.	6 Lyons, Wayne, 13
Enfield, Ct.	6 Lanark, U. C. 11
Florida, Orange.	5 Lanark, U. C. 11
Fairfax, C. H.	11 Loretto, Va. 34

Lowell, Mass.	5 South Westerly, Alb.	11
Luray, Va.	11 Smithtown, Suff.	8
Madison, O.	11 Schlaghtoeke, Rens.	8
Middlefield, Mass.	5 Stone Wall Mills, Va.	11
*Meadville, Pa.	9 Salem, Wash.	10
Medford, Mass.	14 South Trenton, Onei.	23
Mount Juliet, Va.	13 Somerville, Tenn.	5
Mount Crawford, Va.	6 Savage, Md.	11
Monroe, Ct.	8 St. Louis, Mo.	6
Manhasset, Queens.	20 South East, Pat.	5
Middlebury, O.	39 Somerville, N. J.	10
Manchester, Vt.	5 Shelburn, Vt.	23
Mount Hope, Ct.	6 Shrewsbury, N. J.	23
Minaville, Mont.	10 Scull Shonis, Geo.	12
Mamaronock, West.	14 Six Mile Run, N. J.	11
Mariboro, Mass.	5 Shepherdstown, Pa.	11
Mauch Chunk, Pa.	10 Springfield, Mass.	23
Milton, Pa.	6 South Tyringham, Mass.	5
Montpelier, Vt.	16 Sheshequin, Pa.	5
Marshall, Mich.	11 South Middletown, Or.	7
Middletown, Del.	6 St. Albans, Vt.	22
Milton, Del.	11 Sandisfield, Mass.	11
Middletown, Ky.	17 Shoreham, Vt.	7
Monticello, Ia.	5 Sing Sing, West Ch.	24
Manhattan, Ia.	15 South Lee, Mass.	5
New-Berlin, Chen.	5 Springfield, Va.	27
New-Berlin, Pa.	7 Sublett's Tavern, Va.	11
New-Hartford, Onei.	15 Suffield, Ct.	6
New-Lisbon, O.	8 Sheffield, Mass.	8
New-Milford, Ct.	6 Skaneateles, Onon.	11
*New-York City,	70 Sherburne, Mass.	11
Newburgh, Or.	5 Sydney, O.	5
Newbern, Va.	12 So. Salem, West.	12
*Nashville, Tenn.	24 So. Wallingford, Vt.	5
New-Preston, Ct.	5 Stroudsburg, Pa.	11
*New-London, Ct.	26 Strasburgh, Va.	11
New-Market, Va.	5 Trenton, N. J.	18
Norfolk, Va.	57 Troy, Rens.	23
Norwalk, Ct.	22 Tyre, Sen.	11
Norwich Town, Pa.	11 Thompsonville, Va.	5
New-Castle, Pa.	5 Troy, W. T.	5
Newark, O.	5 Tiffin, O.	10
New-Brunswick, N. J.	19 Torrington, Ct.	13
Newton, N. J.	13 Torrington, Ct.	12
Northville, Ct.	5 Ureia, Onei.	31
*North-Haven, Ct.	27 Ulsterville, Uls.	5
Owego, Tioga.	24 Upper Middletown, Ct.	5
*Oswego, Osw.	20 Union Mills, Va.	10
Providence, Illi.	5 Vienna, Onei.	15
Port Republic, Va.	11 Vergennes, Vt.	12
Peit Nation, L. C.	11 Washington City, D. C.	42
Phillipsburg, Or.	5 Watonsdown, Pa.	5
Petersham, Mass.	14 Willington, Ct.	5
Palestine, Illi.	7 Wallingford, Vt.	11
Parkesburgh, Va.	5 Wheatland, Va.	5
Pekin, Illi.	11 Westfield, Chaut.	6
Poquonock, Ct.	10 Whitehall, Wash.	7
Poughkeepsie, Dutch.	15 West Bloomfield, Ont.	6
Peekskill, Dutch.	12 West Winfield, Herk.	11
Port Tobacco, Md.	11 Waterbury, Ct.	11
Powhattan, Va.	5 Wilmington, Del.	5
*Peoria, Illi.	15 Waterbury, Vt.	23
Pawtucket, R. I.	7 Williamsport, Md.	22
Plainfield, N. J.	5 Winchester, Tenn.	11
Pratt's Hollow, Mad.	5 West Springfield, Mass.	9
*Philadelphia, Pa.	33 Walton, Del.	11
Pocahontas, Ark.	5 Watertown, Ct.	5
O. Wilton, O.	6 Wilton, Ct.	7
Ia. 26 Windham Centre, Gr.	8	
10 Wilmington, Va.	34	
5 Washington, Geo.	5	
6 Williamstown, Mass.	5	
N. J. 6 Washington, Va.	8	
Richmond, Va.	37 Whalen's Store, Sar.	17
Rockford, Illi.	5 Warren, Vt.	11
Rockville, Md.	21 West Hartford, Ct.	14
Salisbury, Mass.	39 Warren, Herk.	11
Storkbridge, Mass.	6 Warsaw, Va.	11
*South Cairo, Gr.	13 Worcester, Mass.	6
*Schenectady, Sch.	13 Waynesboro', Geo.	11
Saxes' Mills, Vt.	5 Xenia, O.	7

ARTICLES.	Baltimore, March 18.	Philadelphia, March 18.	Boston, March 21.	New-York, March 25.
Beans, white, per bush.	2 00..	1 75..	2 25..	1 25..
Beef,	2 00..	1 75..	2 25..	1 25..
Bacon, western,	10 00..	9 00..	10 00..	8 00..
Butter, fresh,	13 00..	12 00..	13 00..	12 00..
Butter,	12 00..	11 00..	12 00..	11 00..
Cheese,	12 00..	11 00..	12 00..	11 00..
Cotton, best,	14 00..	13 00..	14 00..	13 00..
Flour, best,	8 00..	7 50..	8 00..	7 50..
GRAIN—				
Wheat,	1 10..	1 00..	1 10..	1 00..
Rye,	1 00..	90..	1 00..	90..
Oats,	40..	35..	40..	35..
Corn,	12 00..	11 00..	12 00..	11 00..
Hams, pork,	10 00..	9 00..	10 00..	9 00..
Pork, in hog,	12 00..	11 00..	12 00..	11 00..
SKINS—				
Red Clover,	2 00..	1 50..	2 00..	1 50..
Timothy,	2 00..	1 50..	2 00..	1 50..
Wool—				
Merino,	40..	35..	40..	35..
1-4 and com.,	25..	20..	25..	20..
Sheep,	30..	25..	30..	25..
Cows and Calves,	30..	25..	30..	25..